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CONTENTS

			Page
1.	Editorial—Some Highlights		
	I. General Economic Scene	...	303
	II. Agricultural Development	...	320
	III. Industrial Development	...	323
	IV. Education, Science and Health	...	327
	V. Employment	...	323
	VI. Other Items	...	333
2.	'Social Structure' *by T. S. Devadoss*	...	338
3.	The Inter disciplinary Research Methodology Workshop on "Indicators on Rural Levels of Living *Assessment by Dr. V. Rajagopal*	...	357

EDITORIAL—SOME HIGHLIGHTS

I General Economic Scene

State :

The Economy : In May the State Economy was in good shape with a good harvest, revived industrial activity level, with the problem of drought which 10 of the 15 districts in the State have had to face in pickets. The decision to provide Rs. 7.5 crores by the Union government for drought relief announced in early May is to be used for providing drinking water facilities and the creation of permanent agricultural assets. This sum is to be an advance on plan assistance to the State in future years. In addition, the State government is providing Rs. 1.60 crores for employment oriented schemes. The Tamil Nadu Civil Supplies Corporation which has 800 handling agents with a capacity of 1.25 lakh tonnes of paddy per month moved one lakh tonnes of rice out of its stock of 6 lakh tonnes to neighbouring Kerala. The water level in Mettur at 53.75 feet in early May, compared to 23 feet in May 1975 means that if the South West monsoon sets in as usual in mid June, Mettur waters for agricultural operations will be released on June 12. The price trend has been downward, particularly as regards essential commodities. The government during the month of April as noted in the last issue pp. 253-254 by executive decree regulated the price of 10 food articles, and followed this up by opening or assisting voluntary agencies in opening places for the serving of Re. one Janata meal per person. Some prices, however, tended to rise during the month notably those of chillies, pulses, gingely oil and tamarind, on which government needs to take corrective action. The official trend shown by CSO monthly statistics indicates a sharp fall in industrial workers price index from 337 in January 1975 to 304 in December 1974 with falls in both food and cloth prices and a steeper decline in agricultural labourers price index from 420 in January to 343 in December (food from 482 to 380) with certain similarity in the price levels as between Madras, Madurai, Tiruchi and Coimbatore (between 310 to 243). Incidentally the State's agricultural income tax has been under debate and it has been decided to continue and strengthen it. It is levied on those who hold more than 10 standard acres, earning a net agricultural income of more than Rs. 5,000, the rate increasing with increased income. Only 0.8 per cent of pattadars in the State pay the agricultural income tax—that is 65,000 land owners.

On the other major taxes—the commercial, entertainment and sales tax,—the need to tighten tax collection is stressed by the fact Rs. 10-23 crores are still to be collected from these sources as from the year 1974-75. There is need also for some administrative stream lining among the commercial collecting personnel.

Drought : Against the Rs. 18 crores of drought relief plan drawn up by the State government comprising provision of drinking water, minor irrigation works, laying of roads, soil conservation and afforestation projects, the State government made available from its funds Rs. 4.5 crores for 3,000 bore wells to be built by end of June, in Tirunelveli (600), Ramanathapuram (500), Coimbatore (200), Salem (450), Madurai (450), Tiruchi (100), Pudukottai (100), Dharmapuri (50), South Arcot (50), North Arcot (150), on the basis of TNWD Board's decision on their location. By May 8, the Union government's aid was established at Rs. 7.5 crores, as noted earlier, and the State's share at Rs. 10.5 crores. The programme will be addressed to 11 lakh people in 3,544 drought hit villages. The plan to get private sector concerns to adopt one village each is making good progress. Madras Cement adopted the village of Karuppan Ansari and others are following with similar decisions. The Rs. 1.60 lakh employment creation programme is functioning in the districts of Coimbatore, Salem, Madurai, Tirunelveli, Tiruchirapalli, North Arcot, Ramanathapuram, Dharmapuri and Pudukottai and is aimed at adding to the agricultural infrastructure of the districts through work on soil conservation, construction of percolation ponds, supply of seed drills and afforestation. In addition as an exceptional measure, the programme is being extended to 17 municipalities who are being given Rs. 7.11 lakhs on a 50 per cent loan and 50 per cent grant basis for execution of water supply works to help them meet the quite unusual drought condition that these municipalities also face. In addition to provide relief to the farmers, as noted in the last issue p. 253 the government has ordered remission of land revenue and local cesses and postponement of recovery of government loans by a year.

Power : May was a continuing normal good month for power supply and distribution in the State. There was one problem. Due to the technical problems in one generator at Idukki Kerala could supply only 30 million units against the agreed 400 million units. The generator was repaired by mid May and should be working at full load by June, when the second generator should also be functioning. As a result of this short fall, there was some fluctuation in voltage in the border districts of the State, and there had to be increased purchase of the costly oil based power from Neyveli, which was doing very well, reaching an all time record of 314.24 million units during April. The Ennore thermal plant had developed a new system of steam washing of turbine while the unit is generating power, resulting in avoiding the 5 day shut down of the units for this purpose and the saving of Rs. 6 to 7 lakhs in fixed costs. The TNEB is planning to establish a cadre of thermal engineers to ensure continuing expertise in the thermal generation field and avoid the accidents and ad hoc measures that the Board has had to face in the past. The government also announced in May the constitution of a 2 man committee to study the cost structure of power supply for agriculturalists and the surcharge now being levied on agricultural pump-sets—a problem

that has become serious in the number of drought hit areas of the State.

For the country as a whole, power generation in May was 20 per cent higher than in May 1975, with an average daily generation of 227.12 million units. Except for shortages in Maharashtra and Karnataka, the power supply during the month was satisfactory in the northern and southern regions. In the western region Maharashtra and in the southern region Karnataka continued the restrictions referred to in Vol. VI p. 126. In spite of a 12 per cent rise in generation in 1975-76, the North Eastern region faced shortages, where the peak availability is 180 MW against a demand of 250 MW. The installed capacity of all its plants—hydel, thermal and diesel—is 247.5 MW and the region's per capita consumption is a low 20 KWH. The Union Ministry for Energy forecasts that with a normal monsoon this year (1976-77), electricity generation will increase by 10 to 12 per cent and the present comfortable power situation in most States will continue. For this year, a further 2,000 MW new capacity is to be added with about 50 per cent of this achieved by December. In the nuclear field, Tarapur produced a high 2,094 million units in 1975-76, the second unit of Rana Pratap Sagar is to be commission during the year, with Kalpakkam becoming critical in 1978. With the termination of the Indo-Canadian nuclear accord and the continued delay by the US manufacturers in the supply of nuclear fuel for the Tarapore plant because of non-technical considerations, there is likely to be some delay in the time table for nuclear power generation in the country, in order that the country may have the time to become self-reliant in this field. The five super thermal plant projects of 1,200 MW costing Rs. 400 crores to Rs. 800 crores each at Singrali (UP), Korba (MP), Farakka (West Bengal), Neyveli (Tamil Nadu) and Ramagudam (AP) are still in the pre-planning negotiating stage with the World Bank. AEC has prepared a scheme to set up another nuclear power plant in the Western region at the Tarapur site in preference to Cambay at Gujarat which is exposed to earthquakes. Further the Tarapur site will give it the Bombay infrastructural facilities, plus the Mulund unit of Richardson and Cruddas which can be used to produce the 500 MW unit to be fuelled by natural uranium. The Power ministry reports high losses in power generation in the units commissioned during 1973-76, the loss on forced outages in the one or two units being 25.9 per cent against the national average of 14.2 per cent. 110 MW and 120 MW units suffer the maximum losses. 36 per cent of the losses being due to trouble in the boiler and its accessories. In 1975-76 the losses decreased to 14 per cent but even so the R and D plan for the magneto-hydro dynamics (MHD) power-plant af 5 MW capacity at BHEL in which BHEL, DAE and DST engineers and scientists will co-operate is timely as it will on raise the thermal efficiency from 35 to 55 per cent, save coal consumption of the order of one million tonnes per annum and produce the fertiliser by product from nitrogen fixation in the plant. At the end of May there was an unfortunate accident in the Vijayavada hydel plant where two limbs of a 100 MW transformer were burnt, causing a damage of Rs. 25 lakhs. Also at the same time the Talcher Thermal Station in Orissa was hit by a gale leading to some loss and a temporary break in power supply to the State.

Housing and Consumer's Co-operatives: The Rs. 44 crores MMDA project covering improvement of water supply, roads and

bus services, slum improvement and clearance, employment and social support programmes for the 450 square miles of the Metropolitan area was under detailed study by a World Bank team in May. The amount of World Bank aid to the project is of the order of Rs. 45.9 crores. The State government is negotiating with LIC a loan of Rs. 14 crores (parallel to last year's loan of Rs. 5 crores) for the Tamil Nadu Co-operative Housing Society, so that its 375 building societies can resume their building loan programmes for MIGs and LIGs in particular. The government is implementing the village Housing Project Scheme through Rural Housing Co-operative Societies, under which 10 Rural Housing Co-operative Societies are being formed this year in 10 taluks, with 100 members, who are really interested in building their own houses, per society. Each member is given interest free share capital loan of Rs. 400 and puts in his own subscription of Rs. 100, so that he will be eligible for a loan of Rs. 5,000 from the rural society. The scheme is being operated by the Rural Housing Cell in the Highways and Rural Works Department. Also in May, the Tamil Nadu Housing Board floated and had subscribed 2 loans for Rs. one crore each. The Consumer's Co-operatives are under review by both the Union and State governments for their expansion, restructuration and development. The first stage in this review is to ascertain their working capital requirements. In this State it is estimated that the rural co-operatives turn over is Rs. 20 crores and urban co-operatives Rs. 80 crores and that the 25 per cent of their total turnover, that is, Rs. 25 crores are the working capital requirements. Consumers co-operatives are to be expanded this year by 20 per cent and for the country the 135 Central Co-operative Banks and State Co-operative Banks and Commercial banks are being called upon to provide these additional finances. In this State, 10 pilot projects have been approved for running 232 shops in the backward areas in South Arcot, North Arcot, Chingleput, Tirunelveli, Kanyakumari, Thanjavur, Madurai, Tiruchi, Pudukottai and Ramanathapuram and for this the National Co-operative Society has granted a loan of Rs. 13.98 lakhs. It is proposed to organise 20 more pilot projects to cover the remaining areas, so that there will be 500 more retail shops serving in all 32 lakhs families at the rate of 5,000 families per shop.

Transport and Tourism: Southern Railway has obtained to the State government agreement for the 55 acres Moore Market site as the suburban terminal. Now the plan for building the multi-storeyed building cum commercial complex can start to be executed. The railway maintained a good 96.2 per cent record of punctuality upto and during May and wagon loading was also good, being 3,157 in March. Only the electrification programme, Madras - Trivellore and Madras-Gudur, is moving slowly because of lack of resources. The State government has provided Rs. 55 lakhs for laying 785 KM link roads under the village works programme in all the districts this year. In early May, 4 mobile branch post offices were opened in the State, taking postal services to the villagers' door step for the first time in Pudukottai, Kovilpatti and North Arcot areas. The post-office will run on bicycles, delivering mail, selling postal articles and mobilising savings. To develop the Cuddalore port, the newly built suction dredger, Cuddalore, was commissioned in May. Another important development is the decision of the State government to give the Tamil Nadu Tourism Development Corporation, the

14.5 acres of land on the bank of the Cooum river, where the last tourist fair was held (See last issue p 257) for developing a permanent exhibition for the city and the State. The government interest free loan of Rs. 2 lakhs is being used to fill up the area. The plan for airlinks between cities and areas of tourist interests (See Vol. V p 517) awaits the submission of the feasibility report by the British Consultant employed for this purpose.

Land Legislation and Welfare : The State's land reform laws are being reviewed to make them uniform with the national guidelines (See Vol. II No. 7 pp. 57). The first action taken was the withdrawal of the landlord's right to resume for personal cultivation one half of the land leased to cultivating tenants. This change takes effect from July 1973. Now the ceilings fixed under different categories of land as well as the exemptions granted are being reviewed. Also the homesteads (kudiyiruppu) legislation is being amended to extend the homestead rights to rural artisans, in addition to small farmer and landless labourers. Tenancy reforms including conferment of ownership rights on tenants are also being prepared. The government has also drafted legislation to provide house sites for houseless farm labourers and for this purpose has asked the State Planning Commission to undertake a survey of the requirements of house sites for the workers—particularly those belonging to the scheduled castes, scheduled tribes and backward classes. It is expected this scheme will cost Rs. 108 crores. The Commission is undertaking a sample survey in 500 selected villages and on the basis of its conclusions, poramboke and other lands will be made to the persons in need. Another piece of legislation now ready is a bill to liquidate the debts of agricultural labourers, artisans and other members of the weaker sections in rural areas whose annual household income is less than Rs. 2,400. Similarly the debt of small farmers owning less than 2 hectares of dry land are to be liquidated. This will replace the 3 ordinances issues soon after the Presidential rule take over in State, providing a moratorium on repayment of debt incurred by agriculturalists and non-agriculturalists upto January 15, 1977 (see last issue p. 257), barring interest payments and prohibiting sale of pledged articles. The Bill will also protect for one year cultivating tenants for non-payment of rent, after which it will be the subject of separate legislation. Towards the end of May, the State government announced the setting up of a Tribal Development authority which will develop, co-ordinate, supervise and implement programmes for the welfare of scheduled tribes. This programme will supplement the general sector programmes from which also the tribals also benefit. The Authority is headed by the second secretary to the government and its chief administrative officer will be the Director of Harijan Welfare. The tribal population of the State is 3.10 lakhs, concentrated in the Nilgiris, Salem, North Arcot, South Arcot and Dharmapuri districts.

National :

Budget : In mid May, Lok Sabha adopted the finance Bill for 1976-77, at which time the Finance Minister announced reductions in excise and import duties to the tune of Rs. 9.90 crores as levied in the Buget that he had introduced in April. Among the articles which received such relief were fine and super fine fabrics manufactured in power looms and processsed by independent

processor, tyre, tubes and batteries for tractors, common use paper, copper and cold rolled grain oriented steel. It was also announced that as against the budgetted deficit of Rs. 490 crores in 1975-76, the actual deficit turned out to be Rs. 367 crores, due mainly to the success of VDSC (see Vol. VI p. 130). Also to channelise corporate savings into high priority industries, inter-corporate dividends derived from new companies in fertilisers, pesticides, paper, newsprint and cement was extended to metals, steel, electric motor, industrial and agricultural machinery, machine tools, ships, tyres, heavy chemicals, hand printed fabrics, starch—in other words all core sector and other industries contributing to the production of essential goods. Some concessions were also announced for non-resident companies, royalties received outside India and self-occupied houseowners. Also the new scheme of excise duty relief to encourage higher production is to be extended from one to three years and extended to new units set in the next three years—so that there can be long term planning and benefits. The budget is, as pointed out in Vol. VI p. 196, a development oriented instrument and has the fiscal incentives for acclerating the economy's growth. It is new for the people and the private and public sector to respond.

Third Annual Plan : The consolidated Annual Plan for 1976-77 presented to the Lok Sabha in May provides an outlay of Rs. 7,851.92 crores—an increase of 31.4 per cent over the Second Annual Plan and the highest outlay ever since planning began in the country. The major purpose and increases are as follows : power Rs. 1,453.40 crores (Rs. 1,101.53 crores last year), transport and communications Rs. 1,304.81 crores (Rs. 1,040.44 crores last year), social services Rs. 1,010.06 crores (Rs. 782.82 crores last year), agriculture Rs. 896.23 crores (Rs. 691.41 crores), and irrigation Rs. 686.79 crores (468.22 crores). Within this total, the outlay of the States and Union governments on the 20 point programme in 1976-77 is estimated at Rs. 2,337.68 crores, the major part being in the State sector, many calling for political decisions and administrative action rather than a lot of money and most being part of plan schemes. In the States Plans, land reforms have Rs. 37.26 crores, minor irrigation Rs. 149 crores, major and medium irrigations Rs. 613.63 crores, co-operation Rs. 57.52 crores, power Rs. 1,289.69 crores, handlooms Rs. 11.7 crores, house sites Rs. 9.97 crores, apprenticeship Rs. 95 lakhs, free supply of books, paper and book banks Rs. 4.21 crores. The Plan will be financed from domestic resources of Rs. 6,245 crores out of which Rs. 3,778 is from the Union government being 79.5 per cent of the budget. Foreign aid including Rs. 150 crores in oil credit and Rs. 178 crores as special credit will finance 16.4 per cent of the Plan outlay and deficit 4.1 per cent (Rs. 320 crores). There is an inflationary potential in the Plan due to the increased plan expenditures and a refund of a part of compulsory deposits. The plan document stresses once more the need for greater mobilisation of resources by the States—at least ensure that irrigation and power charges cover costs, and not continue to be run at a loss as at present.

Prices and Anti-inflation : The wholesale price index at May 1 was 292.1 and showed an increase of 8.9 points during the month of April, which was a near 3 per cent rise for the month. The largest increase was in industrial raw materials from 244.9 to 264.0, the

biggest increase being in cotton from 244.9 to 264.0, followed by groundnuts from 215.3 to 222.1. The second highest group rise was food articles which rose from 309.1 to 318.6. While wheat recorded a fall from 321 o 305, all other food articles—oil, chillies, rice, sugar, pulses and millets—recorded rises; the other groups maintained a stable level. The pressures are in industrial raw materials and food articles. The need for continuing anti-inflationary action is clear. Lok Sabha approved legislation continuing the impounding of dearness allowance now amounting to Rs. 1,000 crores for a further year—July 1977—and received with interest the Finance Minister's suggestion that the impounded Rs. 1,000 crores should be invested in a new sector called workers sector, parallel to the public, private and joint sectors. Legislation was also passed to bring down the bonus of LIC employees in line with national policy. Banks will continue to ration credit, maintain the interest rate pattern and levy penal rates in 6 specified cases of borrowers calling for such rates, the IT department continues its raids on tax evaders and action against smugglers and a National Consumer protection Council is being established for the protection and development of the consumer movement in the country. The RBI study on the effect of the structure of interest rates on bank credit in its February Bulletin shows that the rates are high depending on the nature of the borrowers purpose of the loan and the size of the bank and not on the size of the loan or the richness of the borrowers. While the public sector, agriculture, small industry and even corporate long and medium industry have either not felt the effect of high rates or in the last instance felt it less, it is private sector trade and service industries which felt its impact most directly. The study also shows that the increased interest rates did not lead to high profits for the banks, as the increase in interest on loan was offset by increase in the Bank rate and deposit rate—so that the spread between cost of working funds to the Bank and the interest it charges remained stable between 0.9 to 1.2 in the years 1970-1974. One effect of the long term fall in the whole price index is that the purchasing power of take home pay in March 1976 was 19 per cent higher than in July 1974. The value of the Rupee has increased from 30.4 paise in July 1974 to 34.97 paise in March 1975. As a result, the DA base in several establishments—government, firms, industries is being eroded. DA in a number of establishments has come down by 14 per cent. For the Union government when the 12 monthly price index average falls by 8 points, which will be by July, the government will have to withdraw the last DA paid to its employees.

The Economy : Two reports—one by the World Bank and the other on the industrial sector by the Ministry of Industry and Civil Supplies—present a positive picture of the economy. The World Bank report refers to the control of inflation, more adequate power supply, record food stocks, four months imports worth of foreign exchange, industrial peace, an export growth of 7 per cent, with steel being a first time export and good prospects in petroleum and fertiliser production. The bumper harvest and food grain imports have had a deflationary effect on food grain prices and permitted an eleven million tonnes stock build up. The two weaknesses in the economy, according to the Bank, are first the unsatisfactory long term growth pattern of agriculture, which over the last 15 years is growing only as fast as the population, and second the sluggish, almost stagnant pottern of industrial activity caused by

poor demand for industrial products and inadequate supply of industrial inputs. The report also shows how inadequate international aid has been a hindrance to India's growth and refers to the fact that a 91 per cent of its investment in 1973 was financed domestically, a share extremely high by international standards. The Union ministry's report for 1975-76 on the Industrial sector states that the industrial economy is poised for a break through this year because (a) despite the overall industrial growth of 4-5 per cent, coal, steel, electricity, fertilisers, cement, non-ferrous metals and capital goods production are growing at 7-8 per cent, (b) the substantial increase in the Plan outlay for this year, raferred to earlier, (c) the continuing price stability (through the sharp increase in the price of industrial inputs referred to earlier is disturbing), (d) the improved suppply of agricultural raw materials due to a good crop, (e) increased supply of coal, power steel and cement, (f) more capacity use, (g) improved foreign exchange holding (as Rs. 1,900 crores in March 1976), and (h) the government decision as seen in the budget and in procedures to promote an investment climate. Now the major element for accelerated growth is the willingness of the industrial units to readjust their pricing, investment and marketing policies to the imperatives of growth, and to meet the needs of essential goods production which is the new direction that the economy should take. The official forecast is that an industrial growth rate of 8 to 10 per cent for this year is fesible, as is a higher growth rate in agriculture. The industrial policy involves multi-national firms working within the frame of national priorities and controls.

Public Sector and Other Industrial Performance: The 10 units of the Department of Industrial Development and the 10 of the Department of Heavy Industry maintained higher production records in April at Rs. 47.97 crores compared to Rs. 35.71 crores in April 1975. BHEL's production of Rs. 20.47 crores was 92 per cent of its target. HEC achieved 68 per cent, MAMC 96 per cent and Bharat Heavy Plate and Vessels exceeded its target. National Instruments and Hindustan Paper, however, produced less in April than a year ago. All four public sector units in the ministry of Tourism along with Air India earned profits in 1975-76,—Air India Rs. 5.1 crores, IAC Rs. 3.3 crores, the International Airports Authority Rs. 1.39 crores and ITDC Rs. 47 lakhs—all except the last being much higher than in 1974-75. HMT is continuing its expansion and with its new product line will reach a turnover of Rs. 250 crores during the Sixth Plan. The 3 production units of Indian railways—ICF, Diesel Locomotives and Chittaranjan Locomotives—also achieved high levels with 535 shells of coaches, 517 finished coaches 138 diesel and 54 electric motors. In the industrial sector generally, the government is reviewing its priorities in industrial licensing and regulating through financial institutions investments in desired channels. ICICI, in a World Bank evaluation, is shown to be on the right lines, with an average return of 19 per cent on its loan assisted projects. There is need however for it to aid small industries, particularly in backward areas. For this purpose the industry Minister announced in the Lok Sabha that the government was setting up an Authority for Backward Area Development (ABAD) to plan, sponsor, promote and co-ordinate expeditious industrial development of backward areas, in consultation with IDBI, concentrating mainly on financing infra-

structural development and break up the present 60 per cent concentration of industries around the 4 metropolitan cities.

Steel: Referring to the integrated steel plants producing in 1975-76 being 1.4 per cent over their target, using 84 per cent of capacity, the government forecasts for this year 1976-77, production of 8.2 million tonnes of ingots and 6.4 million tonnes of saleable steel. For April, Bhilai produced 112 per cent of its capacity. In May the hot strip mill in Bokaro was inaugurated, to produce annually, 1.43 million tonnes of HR coils in the first stage, moving on to 33.63 million tonnes in the second. Its capacity can be expanded. The 17 lakh tonnes first stage will produce Rs. 260 crores of products per year. TISCO reports reduced production in April, 1.12 lakh tonnes of saleable steel against March's 1.44 lakh tonnes, 1.36 lakh tonnes of iron against March's 1.49 lakh tonnes, and 1.44 lakh tonnes steel ingots against March's 1.63 lakh tonnes. In May the restructuring of the HSC plants was annonnced in the Lok Sabha, under which Bhilai, Rourkela and Durgapur Alloy became fully owned subsidiaries of SAIL, each formed as an independent company with its own board of management, with Durgapur Steel being the only HSL plant and a fully owned subsidiary of SAIL. This reduces the functional relationship between the Ministry, SAIL and the plant and should make for improved performance. Steel exports have increased from Rs. 18.63 crores in 1974-75 to Rs. 110.99 crores in 1975-76, and for 1976-77 the target is 25.02 lakh tonnes (against which orders received are 21.63 lakh tonnes) for a value of Rs. 300.17 crores. SAIL's 25 year perspective plan established a target of 75 million tonnes by 2,001, when additional capacity in the world will be 300 million tonnes, with the meeting of all home demand during the Fifth Plan, but the emergence of supply shortages in the Sixth Plan leading to 50 million tonnes by 1993-94, when the supply on the basis of existing plants even with the expansion of Bokharo will be 15 million tonnes. The gap of 35 million tonnes makes decision on Salem, Vijayanagar and Vishakapatnam projects urgent as well as the creation of two more integrated steel plants in MP and Maharashtra, on which MECON is developing feasibility studies. This target, with its associated technologies and time frame will call for large investment resources as the cost per tonne of capacity has increased from Rs. 1,100 to Rs. 4,600 in 1974-75 and possibly to Rs 31,200 by 1993-94. This long term steel planning, which has till recently been held back, is now essential to meet the country's industrial and agricultural growth in the future.

Crude : May 21 saw the start of commercial crude production from Bombay High's 2 wells at the rate of 4,000 barrels per day, 25 months since oil was discovered there in April 1974 (See Vol. IV p. 350). The oil Industry Development Board is financing additional facilities for Bharat Refineries to process Bombay crude. When fully developed by 1980-81, Bombay High will produce 10 million tonnes per annum from its 20 wells at a cost of Rs. 1,687.96 crores of which Rs. 1,211.45 crores will be internally generated. ONGC has shifted Sagar Samrat and Bombay drill ships for drilling production cum exploratory wells of oil and gas in the Basin area. It has opened an office at Chandigarh to supervise exploration work in the Himalayan structures. Exploration work at Narasapur in the Krishna basin, West Bengal areas and

the Andaman area is being speeded up. ONGC is setting up two institutes—an Institute of drilling technology to train drilling engineers and collate and disseminate the late technology in drilling and an Institute of Reservoir studies in Ahmedabad to deal with problem of recovering more oil from the existing fields through acidisation, hydro-tractor-ing, water and polymer flooding and reservoir simulation studies. IOC is expediting the pipeline building to the 6 million tonne Bathra Refinery and the use of the existing 1.5 to 2 million tonne capacity pipe line to piping the onshore crude of the Eastern Region to the Haldia refinery. The current production of the Gujarat oil fields is 4.2 million tonnes and this will be maintained during the current and Sixth Plan periods. The government will not be importing crude from shell in view of its agreement with Iraq under which it will be importing 3 million tonnes of crude this year. On the economising side, the joint IOC, NP and DGTD Committee reports in May that the consumption of furnace oil by industrial units can be reduced by 20 per cent and Rs. 120 crores saved by efficient fuel utilisation methods. In the 309 industrial units studied, 18 per cent of furnace oil consumed can be saved without affecting production and efficiency. These units are now consuming 11,50,000 tonnes a year which can be reduced by 2,00,000 tonnes, through fuel efficiency measures. As of now, the maximum saving is in Kerala and Tamil Nadu and the industries where there can be sizeable savings are tea, textiles, chemicals, engineering, cement, ceramics and glass. Accordingly IOC announced a time bound programme to conserve 2 million tonnes of petroleum products worth Rs. 170 crores through various methods of fuel efficiency. It is spending Rs. one crore on fuel efficiency training programmes and other methods of effecting fuel efficiency. It is not resources that are lacking but the will and the trained manpower. The OPEC meeting in May in Bali could not agree on a further price and so decided to maintain current prices till December 1976. This is a relief.

Coal and Ore : Following the economy drive, the integrated energy policy being developed by the Energy Ministry places coal as the principal source of the country's energy for the next few decades. Power production is to be based on coal, hydel and nuclear fuels, the 94 million tonnes of forest fuels to be supplemented by social forest resources and the reduced use of kerosene through rapid development of bio gas and solar energy. On the basis of the 99.88 million tonnes of coal produced in 1975-76 (See last issue pp. 262-263), the target for 1976-77 is established at 106 million tonnes. Coal India plans to convert last year's loss of Rs. 42 crores into a marginal profit this year, through merging the price differential low grade and high grade coal in the country. At present soft coke costing Rs. 86 per tonne to produce, is being sold to the Bombay consumer at Rs. 300 per tonne. In addition CIL is developing a perspective plan for coal production against which both the production and distribution of this primary energy resource can be improved and rationalised. Coal exports which were 4.3 lakh tonnes are to be expanded to 19 lakh tonnes earning Rs. 38 crores during this year. On the iron-ore front, the government announced in May the estimate of 400 million to 3,000 million of haematite and magnetite ores in Bhababudan area in Karnataka State and MMDC has been asked to prepare a feasibility report on the development of the iron-ore in this area. Iron-ore exports have been 22.3 million

tonnes per annum during the last 2 years, the 1975-76 earning being Rs. 175 crores. With provision for bulk handling of ore exports at the ports, and improved and increased steel production in US and Japan, iron-ore exports are expected to increase to 35.5 million by 1978-79 and stabilise at 45-55 million tonnes by 1983-84, against world exports of 670 million tonnes by 1985. At this level of around 55 million tonnes of exports, the country will need the ore for its own growing steel production programme with its target of 75 million tonnes by the turn of the century, as noted earlier.

Sugar, Textiles and Drugs: Sugar production which is estimated at 43 lakh tonnes for 1975-76 is expected to increase to 50 lakh tonnes for 1976-77 because of the increased area under cane cultivation and the usual excise rebates that will be offered. It is necessary that the statutory minimum cane price which is now Rs. 8.50 per quintal tied to a recovery of 8.5 per cent should be increased to Rs. 10 per quintal. The Union government is attempting to get the mills to share with cane growers the additional resources accruing to them from the new incentives announced in November 1975 (see Vol VI p 205), particularly their additional free sale entitlements. Meeting resistance to this plan, the government may place a ceiling on dividend distribution as a means of enforcing the sharing decision. Co-operative sugar factories have decided on a four point plan centering around production innovation, improved distribution, service to the community and people's control as a means of increasing their output and improving their social responsibilities. On the textile side, the major issue in May was the cotton stocks held by the mills and traders with regard to which 200 out of 600 mills and 600 out of 1,800 trades had not filed their returns, as required, as at April 30 by May 15 and were putting around the view that there was a grave shortage of cotton. Actually on the basis data collected, cotton stocks amounted to 30 lakh bales by April 30. There is no shortage of cotton, there has been an attempt to hoard it and push prices up. The use of the penal provisions of the Essential Commodities Act and the import of 66,000 bales of Sudanese and Egyptian cotton should keep this anti-social action in check. As the monthly cotton consumption by the mills is 6 lakh bales, mills will have a carry over 15 lakh bales at the end of the current season. One issue that the commissioner and RBI should probe is where did the 35 mills which held stocks in excess of the prescribed limits get their finances from? Here is the action of black money which can be dealt with. As in the case of sugar, the government is planning to give additional concessions in excise duties to co-operative textile mills to meet their rising costs of machinery—the cost of establishing a 25,000 spindles mill has increased from Rs. 2 crores in 1973 to Rs. 4.25 crores today. In return each co-operative mill will adopt a handloom village or a group of 500 to 1,000 handlooms in an area. Also NCDC is to help the mills in selective modernisation. In the drugs area, IDPL is to produce 51 bulk drugs and intermediates to be used for formulations in replacement of imports. The Hyderabad synthetic drug plant is being expanded from 1,988 tonnes to 3,886 tonnes, the Rishikesh anti-biotics plant is also being expanded at a cost of Rs. 15.69 crores, a new nicotinamide plant is being set up in Bihar, a new formulations unit is being stabilised in Haryana and Pimpri Hindustan Anti-biotics is also being expanded. There programme will replace the Rs. 10 crores drug imports of 1975-76, and remove the problems raised

by the multinationals.

Agricultural Production : The annual Plan document presented to the Lok Sabha at the end of May estimates the 1975-76 food grain output at 114 million tonnes and fixes the 1976-77 target at 116 million tonnes. It reports short falls in jute and maesta production, 5.8 million bales against the target of 6.7 million bales and fixes 1976-77 target at 6.5 million bales. Cotton also was 6.9 million bales against the target of 7.2 million bales, the 1976-77 target being 7.5 million bales. Sugar cane which is 144 million tonnes for last year, is raised to 150 million tonnes and oil seeds maintained at 10.5 million tonnes. Kharif procurement whose target was 4.6 million tonnes crossed 5.6 million tonnes by early May, with stocks in the Union pool and with State governments being 11 million tonnes, and prospects of the food grain stock reaching 15 million tonnes by July. The rice crop was a record 48 million tonnes, with the total kharif crop above the target of 69 million tonnes. AP reported a 10 million tonnes food grains target for this year against 93.29 lakh tonnes for 1975–76, of which rice procurement alone reached 14 lakh tonnes by mid May. Of the 18 major rice producing States, nine produced above the all India per hectare average, two, Kerala and Tamil Nadu, maintained their high yield since 1970-71 and only Bihar showed a decline. In 1973-74 Tamil Nadu replaced Punjab at the top position in per hectare production. The rabi harvest was progressing very well in May. In Punjab and Western UP, marketing of rabi wheat was in full swing, while in Haryana, UP and Delhi harvesting was completed in early May and prices sagged below the official price of Rs. 105 per quintal. By the end of May, Haryana had procured 5.66 lakh tonnes of wheat against its target of 5 lakh tonnes, Gujarat procured one lakh tonnes against its target of 50,000 tonnes and Rajasthan procured 2.18 lakh tonnes against its target of 2 lakh tonnes. By mid May procurement of rabi wheat amounted to 3.5 million tonnes, (double of mid-May 1975 procurement). The government also announced in the Lok Sabha its policy of importing food grains to maintain trade relation with other countries, and under this policy agreed to import 4 lakh tonnes of wheat and one lakh tonnes of rice from the US. The RBI points out that the current year's food grains procurement operations, including the building of the buffer stock will require Rs. 2,000 crores in financial support, which has not been budgetted, and which will require 800 crores from the commercial banks and Rs. 800 crores from RBI. The government reports good results from its dry land techonology programme. In Bellary the jowar yield was 18 quintals per hectare and in Pudukottai 13.7 quintals, against a normal output of 8.50 quintals. In Rajkot the bajra yield doubled to 22.75 quintals per hectare and so too with grams in Maharashtra. The Union government is now preparing for the coming kharif season an increased rice production. HYV areas are to be increased from 12.97 million hectares to 13.50 million hectares, new and multiple cropping pattern and an advance of transplanting and seeding season are being planned to increase yields, new non-traditional areas like Punjab, Western UP and Haryana will continue to increase their production and through use of community nurseries the productivity of rice in Western UP, Bihar, Orissa, MP, Maharashtra, West Bengal and Assam will be increased. On the fish production side, the National Commission on Agriculture

has recommended the accelerated development of inland fisheries from the present 400 kg. to 1,000 kg. per hectare, the intensive exploration of the 200 mile economic zone through medium sized trawlers for exploiting particularly crustacean fisheries and improved transport and marketing systems including floating fish nurseries. On the fertiliser side, the chemicals and fertilisers ministry reports the production of 1.5 million tonnes of nitrogen and 3.20 lakh tonnes of phosphates in 1975-76 being expanded to 5 million tonnes capacity and 3 million tonnes production of nitrogens and 1.3 million tonnes capacity and 9 lakh tonnes production of phosphatic fertilisers by the end of the Fifth Plan. To the 19 fertiliser units with 2.2 million tonnes of nitrogen and 0.69 million tonnes of phosphates in 1975-76, Tuticorin added 2,58,000 tonnes, Gorakhpur expansion added 50,000 tonnes, and Namrup and Bardwan in the public and Mangalore in the private sector will make nitrogen capacity 2.97 million tonnes and phosphates 0.69 million tonnes. To these should be added Talcher, Mengal expansion, Ramagundam, Trombay expansion, all in 1977 and the modernisation of Sindri and Maldia in 1978. For last year, the production target of nitrogen was exceeded by 30,000 tonnes to 15.3 lakh tonnes and in April end the government announced a further reduction in the prices of phosphates and complex fertilisers after the March 17 reduction already announced (see last issue p. 266).

Export : The large trade gap for 1975-76 has not yet been finally established, but a sharp deterioration of the terms of trade due to a sizeable increase in import prices has taken place. Tentative statistics show that India's exports in 1975-76 was Rs. 3,863.20 crores (an increase of Rs. 532.60 crores over the previous year against a target of Rs. 3,600 crores), while imports were Rs. 5,018 crores (up from the previous year's Rs. 4,519.90 crores) giving a deficit of Rs. 1,154.80 crores which is slightly lower than the 1974-75 deficit of Rs. 1,189.30 crores (see last issue p 266) The lower deficit then anticipated in the last issue was due to the expansion of exports and a decline in imports in the last few months of 1975-76. Against a world export growth in value of 4 per cent, India's export was 16 per cent, actually exceeding the target by 7.3 per cent. Imports increased by 11 per cent a much lower growth rate than in the last 2 years. The country's foreign exchange reserves however increased by Rs. 203 crores in January to Rs. 958 crores and the balances held abroad stood at Rs. 1,246 crores at March 31, 1976 compared to Rs. 850 crores in December 1975 due to increased aid flows (22 per cent equal to 30 per cent of our imports in 1975-76), and a big increase in invisible receipts (being Rs. 100 crores between July and December 1976) plus action against smugglers and illegal foreign exchange dealers. For 1976-77 a minimum annual export growth of 8-10 percent is targetted, with an export earning of Rs. 3,800 crores as noted in the last issue p. 266. NCAER's quarterly review forecasts a small trade gap this year, with foreign aid and remittances from abroad being used for importing goods and raw materials to boost production and expanding the new export items of sugar and steel. Handloom exports which reached Rs. 162 crores and probably Rs. 175 crores are to be stepped up to Rs. 200 crores this year (while Rs. 35 crores of cotton imports have been ordered to keep down cotton and yarn prices). Another expanding item is ready-made

garments in West Europe, which earned Rs. 250 crores in 1975-76 and may touch Rs. 300 crores this year. Cardamom exports touched Rs. 18.6 crores last year and are expanding this year. The government has decided to continue cash compensatory support to 97 engineering export items till March 1977, on the basis of which the Engineering Export promotion Council is launching a 5 point programme to earn Rs. 450 crores to 500 crores this year. EGGC is backing up the export drive with a number of new schemes, including investment insurance to cover third country's risks. An estimated Rs. 32 crores worth of exports have been generated by 67 Indian industrial ventures abroad as at March 1976, and another 66 are being implemented in textile, jute, goods, sugar, pipes and pumps, hard-board, engineering goods, electric goods, cement, steel furniture etc. This year is the last year for semi-mechanised handling of ores at the ports, and so from 1977-78 with deep draft ports and mechanised ore handling systems, there will be a spunt in our earnings. Another area of export expansion is erectronic items from BEL and ITI, which earned Rs. 16.2 crores last year and should reach Rs. 30 crores by next year. In this connection the Rs. 100 crore export complex of Santa Cruz airport specialising on a spinning mill, handloom power loom, hosiery and garment making should be enlarged, more than the assembling of TV and radio receivers which are under the direction of multi-nationals. Their actual and full production in the country, without foreign collaboration should be ensured. Under GSP, the export target for 1976-77 to EEC, Japan and US has been fixed at Rs. 288 crores, covering engineering goods, chemicals, leather goods, handi-craft, plastics etc. and this effort should be further expanded. Through SAIL, 10 varieties of steel items from pig-iron to MS wires and under MAMC ten varieties of scrap from mill scale scrap to rejected steel ingots are permitted to be exported. On the bilateral side, the Indo-Iran discussions in May resulted in agreement on the Kudrumukh iron-ore project ($630 million), and a wide range of export import trade items such as alumina, refinery equipment and paper, expanding India's exports to Iran beyond the 1975 $442 million. Similar agreements were reached with Roumania, Yugoslavia and North Korea in May. Also an Indian team proceeded to Moscow to settle the Rupee-Rouble rate question, to harmonise the Soviet rate of Rs. 11.5 to the rouble against the Indian desire to fix the rate at Rs. 8.33 per rouble.

Aid: In the area of aid, the major event in May was the Aid India Consortium (consisting of 13 countries, and 6 World Bank bodies) which met in Paris on May 27 and 28 and, on the basis of the World Bank report referred to earlier, made bilateral pledges of aid of $1,000 million and World Bank loans of $700 millions for 1976-77, totalling about the same level as that of last year (see last issue p. 267). While bilateral pledges were the same as that of last year, World Bank loans are $200 million less because of the dwindling IDA resources. The amount pledged included $160 million in debt relief. Britain increased its contribution, the Scandinavian countries have made long term pledges and all countries have softened the terms of loans near the IDA conditions. The US made no pledge (its agreement of PL 480 $83 million and $61 million are there) and no debt relief commitment. In contrast to the report in the last issue p. 268, during May Canada announced the abrogation of its nuclear accord with India, on grounds of not being able to get an Indian commitment not even to use nuclear explosions for

peaceful purposes, and so ending its contractual obligation to supply machinery for the Rajasthan nuclear plant. It also suspended its bilateral aid to India except food aid and a grant of $2,73,285 to ICMR on fertiliser research. Sweden signed an agreement in May to provide Rs. 47.61 crores as a grant for the first time, for imports and technical assistance to family planning, health, forestry and export promotion. The World Bank also signed an agreement to provide Rs. 45.9 crores as loan to the Madras Metropolitan Development Authority for house sites, water supply, road improvement, small industries and bus transport. The Bank also announced a $25 million loan to the national seed programme and completion of negotiations for a loan of $80 million for development of the country's telecommunication facilities.

International :

Bangla Desh : Bangla Desh reports improved food production, reducing this year's food imports to 1.5 million tonnes from last year's 2.5 million tonnes. More than a million people are at work on the Food for Work scheme aided by the 2,30,000 tonnes of wheat contributed by WFP. Its family planning programme is also at work to hold back population increase. Its imports from India including coal and capital goods will increase to Rs. 60 crores, and its exports to India of fish, jute and news-print will it is hoped similarly be stepped up. Negotiations of Farakka continued with a Bangla Desh team making a detailed study of the site, but the dispute flared up into a popular demonstration in Bangla Desh which, though controlled, has not helped in a bilateral settlement of the dispute.

Pakistan : India and Pakistan reached agreement in May to resume diplomatic relations and restore severed air and land communications between July 17-24, 1976. There should be a growth of trade between the two countries as a result of the agreement. A fourth round of discussions on the Salal Hydro Electric Project between the 2 countries involving exchange of technical information was held between delegation of the two countries also in May as a result of which the disagreement on this power project could be settled soon, it is hoped.

World Monetary Reform : The Pound sterling touched $1.71 at the end of May, recording a 30 per cent devaluation and involving the Indian Rupee having had to adjust upward by 3 per cent its rate the sixth time in 8 months totalling 13 per cent in its up valuation. On May 29 RBI announced the new rate at an average of Rs. 16 to the Pound. In May, IMF announced that it will auction 25 million ounces of gold over a four year period beginning June 2. The first sale will be 7,80,000 ounces at the current market price of $130 an ounce. In the next 2 years 15 auctions are to be held to sell 12.5 million ounces of gold. The proceeds will be used to benefit poor nations whose trade deficits are mounting.

UNCTAD IV : UNCTAD IV got under way in Nairobi on May 5 bringing together 153 nations to face : (a) the mounting trade deficit of $40 billion per annum of the non-oil producing developing countries during the next 3 years, doubling debt service from 11 per cent of their export earning in 1974 to 20 per cent in 1977, calling for decision on debt servicing, (b) some regulation of commodity prices which have fallen in relation to prices of manufactures and worsened the terms of trade of the developing countries by 10

per cent between 1972-73 and 1975-76, calling for a new structure to govern trade relations, (c) the problem of the share of world industry of the developing countries and transfer of technology, calling for a reformed external framework to govern industrialisation, and (d) the problem of world monetary chaos analysed in every issue of this Bulletin, calling for a new international monetary system, universal in membership, serving the needs of developing countries for reserve creation, adjustment mechanisms, balance of payments support and participation in decision making. The Conference started with two diametrically opposed proposals emanating from the Manila declaration of the group of 77 countries, calling for a general debt moratorium, an integrated commodity programme backed by a $3 billion dollar fund (see last issue p 269), control and promotion under agreed conditions of technology transfers and world monetary reform and the pledged aid of 0.7 per cent of ODA. On the other hand, the US backed by Germany and Japan opposed a general debt moratorium which it felt should be dealt with on a case by case basis, rejected the integrated commodity programme and its $3 billion fund, and in place proposed a $ one billion International Resources Bank, whose main purpose would be to get multinational Corporations to invest in the development of mines and other resources of the poor countries, who should give guarantees against nationalisation ; the US proposa did not touch on commodity prices being indexed to manufactures. At the Conference, pledges were made to the $6 billion fund by Iraq, Libya, Kenya, Saudi Arabia, India, Holland, Norway and Phillippines. The target is $ one billion by governments and $2 billion from Banks. After prolonged negotiations and efforts at agreement including and extension of the Conference by a day, the Conference made the following major decisions: (a) On the setting up of a common Fund and an integrated programme for commodities, the UNCTAD secretary-general is to convene a negotiating conference open to all members of UNCTAD on the Common Fund not later than March 1977, and a time frame is laid down for preparatory talks for international negotiations on individual commodities, beginning on September 1, with negotiations on such agreements being concluded by the end of 1978; (b) a three point programme in which rich nations agreed to work out broad international guidelines on debt relief to be applied on a case by case or country by country basis, and for this the UNCTAD Secretary-General is to convene a special inter-governmental group of experts to study the debt problem, with other international groups also providing guidelines in future debt negotiations; (c) a strategy to expand and diversify exports of manufactures and semi-manufactures of developing countries; (d) measures to strengthen the technological capacity of those countries to arrest those brain drain and to reverse the patent system ; (e) formulation of a code of conduct by a group of inter-governmental experts whose draft would include provisions from mandatory to optional without prejudice to a final decision on its legal character and on the programme of economic co-operation among developing countries; (f) UNCTAD is to be a more effective forum within the UN for negotiations of specific agreements and commitments on international trade and co-operation, and UNCTAD V to be convened within 3 years; (g) the role of transnational corporation from the point of view of expansion of export of manufactures, by developing countries; (h) GSP to be improved in favour of developing countries, extending product coverage, with GSP being extended beyond the initial

10 year period; and (i) tariff and non-tariff measures, and restrictive business practices to be reduced and removed and international co-operation for industrial development, restructing and trade to be promoted. This is a wide ranging programme: it is much less than the $3 billion common Fund, the rescheduling or cancelling of the $165 billion in debts and the other provisions of the New International Economic Order set forth in the Manila declaration. US, Germany and UK reserved their positions on the Fund provisions. Canada and France, however, pledged contributions to the Fund. But the conference did arrive at compromise decisions, and gave UNCTAD a major role in international commodity trade. That was its major achievement. Now it all depends on the outcome of the forthcoming negotiations.

International aid: OPEC at its Paris meeting in May offered to contribute $400 million to the New Fund for International Agricultural Development (see Vol VI p 209), with a condition that the industrialised countries contributed $600 million. This confirms earlier pledges by OPEC members to the fund. It will appoint a Director-General to administer the oil based fund for the poorest developing countries from July of this year. Meanwhile the President of the World Bank in appealing for the fifth replenishment of IDA and increased resources for the World and Regional banks expressed his concern at the lack of interest and support to the idea of aid in the US and the industrialised world. While under the Marshall Plan, the US gave 2.52 per cent of its GNP to Europe, under present conditions it is contributing 0.25 per cent of its GNP to the developing countries, though its GNP has increased 100 per cent in the interval. While less than 50 per cent of the promised one per cent of GNP aid from the developed countries has been attained, the condition of the one billion poor in the developing countries has worsened. In this context, UNCTAD IV's programme is a minimum way forward.

Law of the Sea: A revised draft treaty on the sea emerged from the 156 nation UN Conference which ended its 8 week session in Geneva on May 8. The treaty states that the coastal state will have a territorial sea limit of 12 miles from the base line, over which the coastal state will excercise full sovereignty and customs right over an additional 12 miles. The concept of a 200 mile economic zone in which the coastal state will have sovereign rights in living and non-living resources is also agreed upon, except by the 52 land locked States who want their rights, including transit rights, in the economic zone to be enshrined in the treaty. Instead the revised treaty gives them the right to participate through bilateral regional agreement in exploiting the living resources of the economic zone of the adjoining state. On the continental shelf associated with oil reserves, the treaty defines it as the sea bed and subsoil of the sub-marine areas that extend beyond its territorial sea throughout the national prolongation of its land terminating to the outer edge of the continental waters. For India, this will include all of the Bay of Bengal. On the archipelego question in which India wants the Andamans to be given archipelego status the treaty distinguishes between an archipelego state and the regime of islands belonging to a coastal state, which will exclude the Andamans but give it a territorial sea and economic zone; its continental shelf however will be determined according the rule applicable to

land territory. Some progress was made on use of the sea for scientific research and protection of marine pollution. Also some progress was made on the proposed international Sea Bed Authority, in that the large claims of the developed countries were halted. On the basis of these definitions, the Conference decided to meet from August 2 to September 17, though there is still some way to go before an agreed treaty can emerge. The government of India placed before Lok Sabha in May a constitutional amendment to enable parliament to define clearly both the territorial sea limit and Economic Zone. The amendment was adopted and following the conclusions of the UN Conference, the government will introduce the appropriate legislation.

ITU : India has filed an advanced publication information with ITU's International Frequency Registration Bureau— that India will have a multi-purpose domestic satellite by 1979-80. The satellite will be used mainly for soil analysis and information on the chemical content of the soil.

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II. Agricultural Development

Paddy :

With the good harvests, both kharif and samba, the 6 lakh tonnes of the State procured stock of paddy has been offered to the Union government's pool, of which one lakh tonnes is being transferred to Kerala as noted earlier. The stock will be retained in the State's godowns and be available during the lean pariod June to August. Preparations are under way for the coming kharif season and it is expected that for this purpose, the Mettur release will begin around mid June, as noted earlier. Farmers in the State have raised the question of kharif prices and the State government is negotiating with the Union government in order that the Agricultural Prices Commission may fix the prices at an early date. In May the government made two decisions that deal with the marketing of paddy and rice. By the Paddy and Rice (Regulation of Trade) Order, a licensed wholesaler operating a rice mill is permitted for purchase, storage and sale at any one time 700 quintals of paddy and 500 quintals of rice and for a wholesaler not operating a rice mill 150 quintals of paddy and 100 quintals of rice. This order applies to areas where wholesale operations have not been prohibited (see Vol V p 214). The government has also authorised panchayat unions which have Rs. 20 lakhs and above to set up at least 5 procuring centres with godowns and yards as they have been statutarily empowered to collect 1 to 2½ times the kist collected from every landowner as local cess. The Kumbakonam panchayat union, for example, which levies Rs. 2.50 for every rupee of kist collected, will have 5 centres at Thiruvanjuli, Patteswaram,

Sakkottai, Neelathanallur and Solapuram. The Centre will be ready and become operational before the next Thaladi season.

Seed Farm and Irrigation :

The State's 55 Seed Farms will increase seed production by 10 per cent, using high quality seeds for paddy, millets, groundnut, pulses and vegetables during this year. Farmers in the State will need 9,000 tonnes of quality paddy seeds which will be produced in the Seed Farms. In this connection, the new paddy strain ADT-31, with a duration of 103 days and yielding 2.25 tonnes of paddy per acre and used over 80,000 acres in the Thanjavur district will for this year be used over 3 to 4 lakh acres covering also Tirunelveli and Tiruchirapalli districts. On the irrigation front, the State government, acting on a suggestion from the Union government, is undertaking a study, with the help of the Departments of Agriculture, Irrigation and Co-operation, for setting up, as has been done in Punjab, Haryana, Rajasthan, Maharashtra and Karnataka, a Command Area Development Authority (CADA), for co-ordinated and project oriented action both for optimum use of the irrigation resources and agricultural production and for planning and future development of the four systems—Cauvery Delta, Periyar-Vaigai, Parambikulam-Aliyur and the lower Bhavani. Each of these systems will have independent wings under CADA. The project oriented approach built into the proposed system will be both economical and optimal in results and will be used for the long delayed Cauvery modernisation programme under CADA. The administrative structure and scope of the Authority is now being studied in detail for the project to become operational this year.

Research Results :

In May four research results related to paddy. Two concern the 60 per cent of rice grown in the State and the country which are under rainfed conditions. The first is a solution to the problem of late planting of the rice crop and all the attendant losses suffered from pest and diseases and the loss of grain maturity due to cool weather and the delays imposed on the second crop. The late planting is imposed because each farmer has to have adequate water to raise his paddy seedlings for transplanting. Now several States have successfully started community nurseries through which paddy seedlings are made available to the dry farmer on time. This should be done in this State also on a mass scale. A second break through is the direct seeding of rice which can save the dry farmer the problems of transplanting and the perennial problem of water scarcity he faces. Now tests and demonstrations have shown that eight varieties of rice, starting from Annapurna to CR-113-32 which has a duration of just over 2 months, can be used successfully for direct seeding. A third result was announced by the Rice Research Station in West Bengal which in May released six salt and flood resistant varieties of paddy. Jaladhi I and II are flood resistant Jalapblaban I can be grown in low lying areas and the varieties tolerant to salinity are Hamilton and Malta. The mutation, breeding and hybridization research of this centre has reached a high degree of success. The fourth research result was the designing and construction by PSG college of Technology, Coimbatore, of a cheap and reliable storage bin for storing paddy at the village level, using the locally available raw materials. It is a small sized ferro-cement silo, costing about Rs. 280 and with a capacity

of 0.7 tonnes of paddy. Two other research results should be noted. New varieties of pulses have been released which are economical to grow as an inter-crop under intensive, irrigated conditions replacing the long duration, low yield dry farm varieties. In red gram, F-21 matures in 3 months and can in the State be grown mixed with cotton, groundnuts and in the bunds of paddy fields. Similarly sharda is a little longer duration and can be grown also in dry farming conditions Among green grams, Pura Baisakhi and T-44 take 2 to 2½ months and yield 8-10 quintals per acre, S-8 yielding about 50 per cent more. For Blackgram T-9 is a short duration heavy yielder and can be grown under rainfed conditions and is suited to mixed cropping. Finally experiments in cane growing areas of the Kallakurichi Co-operative Sugar Mil shows that spraying of urea over a cane crop sowed about 23 kg. of N and increases the yield. So, too, the project to improve the State's annual yield of 885 million coconuts through the development of high yielding hybrid seedling aimed at increasing the coconut yield per tree by four or five times is now well underway. The project has moved out of the research station and is a centrally sponsored scheme on which, at a cost of Rs. 7.92 lakhs, 4 lakh hybrid seed nuts will become available in the State during the Fifth Plan.

Fish Farming :

Fish farming in the State will benefit from the use of the composite culture of indigenous and exotic carps, as a result of which fish production in fresh water pounds have been increased from 800 kg. per hectare to 8,000 kg. of marketable fish. This production at a cost of Rs. 2 to 2.50 per kg. of fish is through the induced breeding of Indian major carps in confined waters. Here the indian carp were made to breed twice within 2 months —opening up prospects of multiple breeding, prolongation of the breeding period and enhancing fish seed production and domestication.

Tea and Coffee :

The tea crop in South due to the 100 days dry spell, was lower in March by 5.5 million kg. compared to March 1975 production—a loss of 5 per cent. The total production in the South for the first quarter is 16.75 million kg. With good weather in the North, this year's target of 514 million kg. will be attained. Sri Lanka has a smaller crop, but East Africa is doing well. Tea prices are holding firm and for 1975-76, the country's tea export earnings were Rs. 260 crores—an increase of 20 crores over the previous year. India's long term plans in tea production have been the subject of internal and international discussion. While India projects an increase in world tea consumption leading to a doubling of its output from 500 million kg. to 1,000 million kg. by the end of the century, FAO's projections at the international meeting on tea in Rome in April 20 to 30 showed a production ot 560 million kg. in 1980 and 540 million kg. in 1981, because India was not extending tea acreage. So too exports were shown at 213 million kg. in 1980 and 200 million kg. in 1985, because of India's increase in internal consumption of tea, compared to India's projection are 240 million kg. by 1980 and 300 million kg. by 1985. The moral from this debate is the urgency of taking steps now to improve and increase tea production and acreage in the country. In May, Lok Sabha passed legislation enabling the government to take over sick tea gardens for a minimum of 5 years. The gardens are to be run by the public sector or the

State concerned or the co-operative sector and in some cases by well run private agencies. With this measure, the tea gardens in question can rapidly be rehabilitated. The International Coffee Board in late May decided to publish daily average coffee prices from October 1, though because of world coffee shortage export quotas will operate from 1978.

Rubber :

The government has authorised a second instalment of rubber exports of 3,000 tonnes (the first was 2,000 tonnes) as a means of stabilising rubber prices in the country. The price increased from Rs. 575 per quintal to Rs. 600 per quintal. The country's current production is 1.4 lakh tonnes—which is a doubling in the past ten years.

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III. Industrial Development

Salem Steel :

Salem Steel once more formed the subject of discussion at the Prime Minister's level in May with the Ministers of Finance, Steel and Mines and the Deputy Chairman of the Planning Commission. No new facts emerged and hence no new ground was covered. Only the Prime Minister taking up the question has raised hopes that the economics of the project which has been analysed time and again by the government and in this Bulletin will be backed up by a political decision. The full Rs. 540 crores project requires Rs. 120 crores in the first phase, given the demand projections for electrical steel and special steel that have now been firmed up by SAIL for the next 25 years, what is needed is a political decision to allocate Rs. 12 crores for this year a decision to release Rs. 46 crores later for machinery and equipment and further follow up decisions.

Neyveli and Kalpakkam :

Despite the somewhat gloomy report on its functioning in the last issue of the Bulletin (see p 277), the Energy Ministry's report shows a marked improvement in the working results of Neyveli in 1975-76 due mainly to improved labour productivity in turn the result of the Emergency. Meanwhile the township is being developed as a garden city with a big horti-cultural programme and a successful programme of transplanting and replanting, involved moving the 924 mango, lemon, lime, jack, coconut and grape fruits to their new site. As for the Kalpakkam Nuclear power project, the Energy minister assured in the Lok Sabha that the first unit would be completed by 1978 end and the second by 1979. With the external pressure on the country with regard to nuclear technology, referred to earlier, the indigenous component of the nuclear plants is steadily increasing. Growing with almost 0 for

Tarapore, it was 40 per cent for the first Rajasthan unit, 60 for the second, 80 per cent for Kalpakkam and will be 85 per cent in the Nerora project.

Hindustan Photo :

Hindustan Photo Films has launched a Rs. one crore project for a finishing plant at Madras where films in many types and sizes are produced for the printing industry, industrial X-ray and medical X-ray and cine colour films. It is installing sophisticated British and Japanese equipment for this purpose and has begun an expanding export programme with Hungary, East Germany and other overseas markets. The company is in good form, productivity for employee is up by 125 per cent compared to 1973, capacity use is 100 per cent and production has increased from 3 million square metres to 7 million square metres—being an over 100 per cent increase in quantum and 200 per cent in value—in that time period. The earlier period of loss—cumulatively amounting to Rs. 440 lakhs (see Vol. V p. 157) has now ended, and the unit is not only absorbing the higher costs of raw materials and wages but made a net profit of Rs. 40 lakhs last year, against its increased costs of Rs. 85 lakhs.

BHEL and TIIC :

BHEL has decided to take over India Meters, Ambattur, which is licensed to manufacture 1.5 lakh polyphase and 50,000 single phase electric metres but which was running at a loss since its inception in 1963, amounting cumulatively to Rs. 3 crores. It has been closed for the last 15 months, while employing 1,600 workers. BHEL has re-organised the unit with the help of finance from the term lending institutions and is turning the functioning of the unit into a normal profit producing one. BHEL has also decided to establish a 2,000 tonne hydraulic press to be supplied by HMT indigenously. Further to the half-yearly report of TIIC summarised in Vol VI p. 217, the Corporation reports on impressive record for the year 1975-76, with Rs. 21.35 crores provided to 613 projects (compared to Rs. 18.23 crores to 486 projects in the previous year). This included increased aid to 291 projects in industrially less developed areas, amounting to Rs. 11.74 crores, 495 for small scale projects receiving Rs. 7.07 crores, including 454 new projects of which 418 were by technocrats. The total value of aided projects was Rs. 36.62 crores, TIIC aid being 58 per cent of the total, enabling the employment of 12,700 workers and a production of Rs. 123 crores.

Company Registration :

During the quarter ending March 31, 1977, 55 companies, including 6 public and 49 private companies with a total authorised capital of Rs. 1,140 lakhs and Rs. 310 lakhs were registered in the State. 3 were big companies with authorised capital of Rs. 50 lakhs and above. Only one company with a paid up capital of Rs. 3 lakhs went into liquidation—indicating good progress in the State's industrialisation trend.

Sugar and Textiles :

As reported in the last issue (p. 279), with sugar production in the State at less than 50 per cent this year (1.9 lakh tonnes) compared to the normal annual production of 4.08 lakh tonnes, all sugar mills closed their crushing in May. June and July which used to be continuing crushing months for some mills will not be

so this year. With the fall in prices particularly of rice and it is hoped of jaggery, it is expected that the double diversification of cane lands to paddy and of cane to jaggery will not operate for the coming season, so that the availability of cane for the coming season will be more nearly normal. Meanwhile for this year, the State will not be contributing its share to the sugar export quota. One of the 3 cane pests—the most serious—the internode borer— which is not susceptible of chemical pesticide treatment, is being treated by biological methods by the Maduranthagam Co-operative Sugar Mills over its 8,000 acres of cane yield. So far, 2,600 acres have been covered by use of of the parasite and a further 3,000 acres will be engaged in the coming year. The mill has set up its own laboratory for breeding this essential parasite. On the textile front, there are long term problems for the textile mills in the State on both production and price counts. India has the highest capacity in the world with 19 million spindles and 2,00,000 looms but, because of low productivity and under utilisation of capacity, is in the third rank in production. In addition to this aspect the State mills are in the main spinning mills because of government policy to ensure yarn to the handloom sector. As a result, the mills in the State have to sell about 50 per cent of their annual production to Maharashtra, UP and West Bengal and equally have to import more than 60 per cent of their cotton needs from these states. (For this year, cotton production will be a high 3.85 lakh bales compared to last year's low 2.2 lakh bales due to second picking in the rainfed cotton areas, following late summer showers providing an additional 50,000 bales, totalling 4.35 lakh bales this year.) This two way traffic increases yarn cost by Re. 1 per kg. To deal with this problem, SIMA has launched a scheme to double cotton production in the State within the next 5 years—from 3.5 lakh bales to 7 lakh bales. A start has been made in Mannapparai in Tiruchy district, were 2,000 acres have been brought under good quality medium staple varieties and incentive to the farmers to grow them. This year SIMA is spending Rs. 2.5 lakhs to further speed the project, and plans to cover the whole 7.5 lakh acres in the State with pure quality seed in the 5 year period. It has also given Rs. 50,000 to ICAR to evolve new strains of rainfed cotton seeds. On the price side, the Rs. 350 crores modernisation programme launched by IDBI will help the State mills increase their productivity and living costs and reduce prices below the relief given in the budget as seen in Vol. VI p. 196.

Sundaram-Abex :

In May, the Rs. 160 lakh Sundaram-Abex plant for fabricating all types of friction materials for automotive, non-automotive, industrial, railway and other uses was inaugurated. As part of the Rs. 200 crores automobile ancillary industries, this unit will replace imports in friction goods and contribute to safety of our vehicles who have to carry larger loads every day. It is using the latest technology in fabricating brake lining for cars, trucks, trains etc.

Handlooms :

Tamil Nadu Handloom Weavers Co-operative Society is expanding production by converting its idle looms for the production of two lakh metres of 60 X 40 shirting—red, blue and white—of good quality. It has also entered the polyester fabrics area and its first 700 saris will go on sale next month —June. It is expand-

ing its exports Rs. one crore's worth of 1,00,000 terry towels to Korea and is expecting large orders of shirting, tea towels, and 1,005 voiles from the US, West Germany, Australia, Sweden and Denmark, Meanwhile the State government has set up a committee to review the working conditions of weavers, who work on a piece rate basis, lacking minimal conditions of security of employment, wages and other conditions. The Committee is to propose legislation for protecting the weavers working conditions within 3 months—this also in implementation of the 20 point programme.

Leather :

The Union government announced in early May a cut of 15 per cent in the export quotas for EI and wet blue goat and sheep skins and 10 per cent cut in the quotas of other skins. These units are not imposed on small tanners—that is those with quotas below 25,000 pieces. And to mop up the profits in the semi-tanned leather trade, the export duty has been raised by 5 per cent to 25 per cent on May 1. At the same time to stimulate structural diversification the cash subsidy on finished leather was raised from 5 to 10 per cent. The first effects of these decisions was to slow down export trading, as most sellers increased their prices by 5 per cent and foreign buyers have not responded to this price increase. The effect of the cash subsidy on finished leather should promote the government's long term policy of switching the leather exports to finished leather and leather goods. This is the trend, as the statistics for 1975-76 show a Rs. 31 crores increase in export earnings to Rs. 184.13 crores, an increase of 20 per cent over the 1974-75 earnings. For the current year, the target is Rs. 270 crores, comprising Rs. 85 crores for finished leather (Rs.40.75 crores last year), Rs. 60 crores for footwear (Rs. 11.98 crores last year) and Rs. 85 crores for chrome tanned hide and skins (Rs. 80.44 crores in last year).

Private Sector Reports :

The annual report for Aruna sugars for the year 1974-75 show a 108 per cent capacity use and production of 47.94 lakh tonnes of sugar, including an export of 11,472 tonnes. 4.05 lakh tonnes of cane were crushed and 3.42 lakh quintals of sugar produced. There is reference to the problem created by cane price, levy sugar and revised levy price and the diversion of cane lands to other crops. The annual report of the EID-Parry for 1975 refers to the indianising of the company, the net profit of Rs. 100.75 lakhs, the poor cane quality in its sugar factories, the sale of spirits outside the State due to prohibition, and the good production record in fertiliser to meet the demand upsurge.

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IV. Education, Science and Health

Educational Performance and Reform :

In May, the SSLC results were published, showing that 58 per cent (1.31 lakhs) out of the 2.26 lakh students were successful, with girls doing better than boys, and the schools in the Madurai University performing better than those in the Madras and Annamalai University areas—indicating once again that urban based schools do not provide a good learning environment. However this year, on this occasion, of the 21 students placed within the first ten ranks, two, the first and the ninth ranks, were secured by students from the Madras schools. Some progress is also noticeable in the performance of the students from the weaker sections. Among the 269 pupils who were in first 32 ranks, 2 were from the scheduled castes and 91 from the backward classes. There is still the issue as to how far performance in the final examination is a measure of a student's learning abilities and achievements. The major debate during May both in the State and the country was, with regard to the place of education in the constitution and the new pattern of education 10+2. The All India Congress Committee adopted the report of its constitution sub-committee which inter alia recommends that Education should be transferred in the Constitution from the State list (List II) to the concurrent list (List III). The constitutional amendment which will go through the normal processes will mean that both the Union government and the State government will have jurisdiction in education, with the Union government's legislation and orders having supremacy over those of the States. This will introduce a certain uniformity in education, could to an extent help in setting and enforcing standards, and remove education planning administration from local pressures. On the other hand, education is in the end a 1 : 1 relationship, and by its very nature ought to be the most decentralised sector of human and social life. To make this change work, there will have to develop conventions which while ensuring uniformity in teacher's salaries and conditions of service and the autonomous inner life of the world of the intellect, should ensure that education is a function of the local reality of the teacher and the student. On the new pattern, the Maharashtra governor opened the debate by saying that the reorganisation in his State was done in a hurry and that the + 2 stage was not yet prepared. This is true and in this State time has been taken till 1978 to prepare for the change over. NCERT has just brought out a monograph of + 2 higher secondary stage, which provides for 50 per cent of the students going into the academic stream and from there to the Universities, while the other 50 per cent choose between a number of vocational courses—in agricultural, industry and trade. Both streams will spend 25 per cent of the total time on language and general studies, the academic stream devoting all the rest to science social science, and humanities, and the vocational stream spending two thirds on vocational training and one third on basic science or socio-economic aspects of the elected vocation. The transition to the + 2 stage, is to be gradual starting with 3 or 4 higher secondary schools in each district, and increasing the number to 25 per cent of all secondary schools during the Sixth Plan. The monograph is to be debated at a National Conference in early June in New Delhi. In this State, the Tamil Nadu

Asiriar Kazhagam at its meeting at Tiruchy opted for a faster rate of setting up higher secondary schools—25 per cent of the 2,890 secondary schools in 1978-80, another 25 per cent in 1980-82 and all the schools by the end of the Sixth Plan. This is too fast a rate and there will be no resources for it. It also recommended that the colleges and higher secondary schools should run 2 shifts in 1978-79, when there will be 4 lakh students (double the normal number) writing the 11th and 10th year SSLC. It reiterated that colleges must shed the PUC/Higher secondary by 1984, and only post-graduate teachers should man higher secondary classes. It also recommended that work experience should be central in secondary schools, and agricultural, para medical, engineering and trade courses the vocational courses in higher secondary. It is good that the subject is to be debated at its Annual conference next month, as a means of gaining teachers' understanding and support of the scheme. The State Board of Secondary Education meeting at the end of May in Ooty also discussed the new pattern, recommended the setting up of a Board of Higher Secondary Education for conducting the + 2 stage and examination, recommended that the colleges should shed the PUC in 1981 (and not 1984 as recommended by the committee—see Vol. V p. 426), and decided to introduce a system of social control—the Department of School Education issuing licenses and supervising their running—of unrecognised schools. In Madras alone there are 600 such private schools with 4,000 teachers and 60,000 to 75,000 pupils from Kindergarten to Standard V, run with varying degrees of facilities and amenities. But the problem of school facilities is a wider one. A government primary school in Nagercoil reports that it has been holding its classes in the open for the past 3 years and similar complaints of school being held in badly maintained thatched roof building are made at Development Council meetings. There is need for a school environment programme for both recognised and unrecognised schools. The Director of School Education is taking action to prevent the collection of donations by schools at the time of admission. The government is also studying the possibility of staggering school and college working hours, schools starting at 8 or 8-30 and colleges at 9 A.M., in order to meet the transport problem in the city. This staggering is even more urgent in the harvest and planting season in the rural areas. A survey of 2,000 children in 400 villages by the Madras Universities college showed that 4 per cent of the age-group 3 to 7 suffer from night blindness. 16 per cent show vitamin A deficiency and about 17 per cent have refractory errors. 5 per cent of the children suffer from trachoma. At school, children's medical check up service is necessary (see Vol. III p. 196). Madras Corporation reports some improvement in the quality of its 350 schools and 34 high schools attended by 2 lakh students as a result of the various measures taken—both material and learning. Its SSLC results show a 35 per cent success (40 per cent girls and 28 per cent boys). After consulting its panel, AIR, Madras announced a restructuring of its English language lessons, the introduction of quiz, feature and general science programmes and new maths for teachers. Each broadcast will end with a set of questions for group/listener discussion. The government reorganised the State Council of Educational Research and Training (see Vol. V p. 28), with three major divisions: one dealing with educational research, training, evaluation and extension services, a second with curriculum development and education technology and a third with educational administration and statistics.

It will be a clearing House and meeting place for planners and teachers. At the University level, May was the period of a number of faculty improvement programme, teaçher refresher courses, a workshop on the teaching of English run by the Presidency College, and a number of NSS camps wherein students are serving in villages. UP has made NSS compulsory, every student having to work 120 hours in social service in rural areas to be eligible for a degree. NCC in the State has decided to introduce social service as part of its training programme. On the other hand Patna University has banned extra mural activities of its teachers such writing articles and books and participating in seminars, AIR programmes etc.. This kind of action by a university needs thought and discussion at the UGC or Indian Association of University level before execution. Calcutta University has proposed that a Psychological Survey of India be set up by the Union government. This proposal also needs further study, debate and clarification.

Satellite and TV:

ATS-6 has enabled our scientists to detect large ionospheric scintillations which interfere with TV and radio signals, and whose further study is important for our television and communication systems. The long term programme of the country's space programme plans the use of satellite technology for earth observations in agriculture, oceanography, hydrology and meteorology. The second flight model of Aryabhata is being modified with this propose in view. The Department of space is setting up a satellite tracking station at Kavaloor in this State to study the relation of the earth to other planets, of particular use in geodesy. The station is to be located at the Indian Institute of Astro-Physics and will be ready by the end of the year. On the television side, the government announced the opening of television transmitting centres at Jaipur, Hyderabad, Raipur and Cuttack by March 1977, at Muzzafurpur, Gulbarga and Kanpur by June 1977 and six transmitters in the SITE areas after the withdrawal of ATS-6. Terrestrial transmitters would then cover 10,000 villages against the 2,400 covered by the satellite. In Madras by the first week of July, the operational range of the TV centre will extend from the present 10 KM to 100 KM, when the antenna on the 175 metre tower is fixed and the transmitter is transformed from the present 1 KM to 10 KM. The telecast will reach Tindivanam, Kancheepuram and Kalahasti and will be increased daily to 4 hours. The Union government is installing 125 sets in the slums of Madras and is planning to make available somewhat cheaper sets to suit the middle class audience.

Technical Education:

The All India Council of Technical Education meeting in New Delhi at the end of May decided that public sector and other industries should adopt a polytechnic each and some seats in such industry-adopted-polytechnics should be reserved for the workers from the industry, which should institute a salary cum scholarship scheme for such workers. It also set up a working group to develop agriculture oriented courses in the polytechnics to meet the needs of the Green Revolution. From 1980-81 when the 10 + 2 pattern will operate, the engineering degree course is to be reduced from 5 years to 4 years, while the polytechnic diploma course will be 3 years, its entrance qualification being the 10 year

school. It expressed concern about the rush for commerce degrees, which, it said, "particularly at the under-graduate level (meets) the needs of neither general education nor professional education and set up a group in consultation with UGC to look into this. It increased Ph.D and M.Tech. Fellowship as a means of improving the quality improvement programmes for teachers. A study by the Delhi IIT of all the 5 IITs reveals that children from elite families are most successful in gaining admission to IITs, the typical student being 17 years of age from a family whose head earns Rs. 14,500 annually, from a city and having studied in an English medium school. This class bias increases, the chances of a boy from a parental income group of Rs. 25,000 and above being 10 times that of one from the poorest families. 20 per cent of students however, belong to families with income below Rs. 6,000 and to strengthen this trend, the Union minister of Education has announced a package including scholarships, special remedial courses and reservation of seats to counter the class bias in these elite institutions. The Southern Regional Committee of the Council meeting in early May has recommended more sandwich courses in the technical institutions, using the new emphasis in the apprenticeship scheme. It recommended that a consortium consisting of IIT REC and some engineering colleges in the Southern States join to improve the functioning of polytechnics and engineering institutions, update their curriculum and ensure faculty improvement. It recommended, and the Union government agreed, that book banks should be established in all polytechnics by 1977-78, a Rs. 23 lakh computer centre at PSG college of Technology be established and a post-diploma course in industrial electronics at the Pollachi Polytechnic and a production cum training centre at the Madras Women's Polytechnic be started. The Pollachi polytechnic reports designing a mobile science trolly for effective science teaching in SSLC, PUC and Pre-technical classes. The conference of Principals and Deans of Medical Colleges held at the end of April in Delhi made a series of important recommendations for medical education based on the Plan of Action of the Shrivastava Committee (see last issue p. 284). Its major recommendations are: (a) the medical colleges and teaching hospitals should establish functional linkages with regional, district, tahsil and taluk hospitals, PUCs and Municipal and Public Health Services in the form of a viable and economic referral services: (b) Every medical college should co-ordinate the service programme of the referral service in order to have an integrated community health service in preventive, promotive and rehabilitative aspects, for control of communicable diseases. nutrition, maternity, child wealth and family planning: (c) the training programme for under-graduate medical education within this integrated service should involve general practitioners and the faculty and students should be deployed in the PHC and sub-centres, both to provide integrated and comprehensive health care delivery, and to improve under-graduate medical education: (d) to begin with each medical college should be wholly responsible for promotive, preventive and curative health care of 3 community development blocks in a district and the doctors working in the regional, district, taluk and rural health programmes, should be used in under-graduate medical education teaching: (e) the internship grogramme should be spent entirely in district and taluk hospitals and PHC centres: (f) the teaching of community and social medicine should become a joint responsibility of

the medical college faculty and the district level public health administration and (g) a Department of Education and Training should be set up in each medical college and training of para medical and multi health workers and the health team concept should be undertaken to improve delivery of community health care and to assist in monitoring the community health service and the delivery system. Now it is for Madras University and other Universities to implement this important set of recommendations. In this State there was an endorsement of these recommendations at a medical seminar at the end of the May and an announcement that the government is considering creating a cadre of medical administrator in order to improve hospital administrations and permit speicalists to devote their service to promotive and preventive health activities in their specialisations.

Science :

CSIR is extending its Karimnagar project by adopting one district in every State to demonstrate the application of Science and Technology for area development and for this purpose has a fund of Rs. 15 crores. NPL reports a break through in low temparature technology which the Indo-Burma Petroleum Company will be fabricating liquid nitrogen plants, air purifiers, cyro probes and carbon dioxide solidifiers, as well as the quick growing of foods and food and vegetable crops. The consortium of Southern engineering Institutions referred to earlier will also help industries in the South to find solutions to their problems. DST has launched a co-ordinated Rs. 20 lakh research project on gobar gas, involving the Khadi and Village Industries Commission, IARI, SERC, NCERT and IIM to attain cheap design, higher gas production, use of solar energy in the plant and development of efficient biogas burners and engines. The PSG college of Technology, in addition to its work on silos referred to earlier, has developed 2 new designs to increase the hauling capacity of the bullock cart and reduce the neck load of the animals: the integral chassis and draw bar are so placed on a fabricated axle so that the draw pull is taken straight to the axle centre. SAIL's R and D unit has successfully produced formed coke and is at work on coal dusting technologies, coal dust injection, and substitute metals for niobium and vanadium. DST has secured further liberalisation of equipment imports by recognised laboratories and research units. The National Radar Council reports progress in the research outcome of its work on sophisticated radars in demand by about a dozen services of government. The Department of Space also reports success in its studies rockets and a number of new facilities to accelerate the space programme, as well as its test flights experiments. The Department of Agricultural Research and Education reports also rapid progress in agricultural research, through the 8 agro-climate zones and the committees attached to them by ICAR. The reorganised Agricultural Research Service has helped in research expansion and in the setting up of the new control Institute for Cotton Research at Nagpur, the Central Institute of Agricultural Engineering at Bhopal, the National Bureau of plant introduction and All India Soil and Land Use survey organisation.

Health :

The country's population is growing at the rate of 2 per cent every year (21 million births—9 million deaths—12 million addition) and will be 610 million as at July end this year. Family Planning

takes on urgency atleast for the future, and the National Population Policy announced by the government (see last issue p. 285) and the over riding unanimity of the AICC on the country's family planning programme have come none too soon. In this connection, the government states that it is considering a national policy for distribution of the population over the country to improve the living conditions of the people. The World Bank has agreed, in addition to the 2 UP and 2 Karnataka family projects, to assist another project which the government plans to locate one in Eastern, two more in South and two more in North India. Kerala reports that the family planning camp at Calicut developed some innovative approaches, such as free tickets for the semi-finals and finals of foot-ball matches to acceptors of vasectomy. The result was that the acceptors were younger and more literate and educated. While WHO reports that small pox has been completely eradicated from the country, chicken pox has become an epidemic in the Southern States and malaria has become a serious health hazard in Tamil Nadu—making our programme against communicable diseases important. BHEL reports the development of a full fledged occupational health service to protect workers against any health hazard arising in their work or environment. This is one more plus for BHEL.

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V. Employment

A study by the Punjabi University—a sample and a rather restricted one at that —shows that in the rural areas, education among females made them withdraw from the active labour force. The urban participation rate for women was also the lowest in the country. Does this mean that a higher literacy rate leads to low job participation? There is not enough evidence to make this generalisation. The World Employment Conference to be held in June in Geneva of the ILO will be concerned with a wide variety of issues including a basic needs strategy which is also employment generating. In this connection, ILO computes that between now and 2001, employment will have to be created for one billion people in the developing world. It recommends that multi-national corporations who now employ two millions in these countries should further expand their activities to solve the massive employment problem. But this carries with it control of the economies of the country, and a division of labour wherein sophisticated industrial machinery will be produced by the developed and labour intensive and assembly work on the developing countries. The ILO solution carries with it rather serious dangers for a balanced and autonomous development of the poor countries. The ILO conference will also deal with the problem of migrant workers which is serious for Europe and the Mediterranean countries. The momentum

for the release of bonded labour is gathering pace, and as at May end, the total of freed workers were 27,195, including over 1,000 in this State. The problem is their rehabilitation and education. Another problem facing the country is that of child labour. The State government has asked a Revenue Board member to make a study of child labour in Ramanathapuram, where it is reported that 35,000 workers in factories and other industrial units 10,000 are below age 14. But the problem is much wider and closely related to rural poverty. The Union government has therefore been advised by a group of experts not to ratify the 1973 ILO convention abolishing labour by children below 14 years. The State government has developed a scheme for employing 1,000 repatriate families from Sri Lanka in the State Farm Corporation, and has requested a Union government contribution of Rs. 80 lakhs for the project. Plantation workers houses are to be speedily electrified in the State and for this purpose a cell is to be set up in each plantation district to monitor this programme. The project for a Workers Sector put forward by the Finance Minister referred to earlier is under study by a special Union Cabinet Committee chaired by the Finance Minister and including the ministers of Law, Industry, Labour, Defence Production, Energy and Planning and will have to be discussed widely with Trade Unions. The workers are participants in all sectors, because it is their labour which results in the product so that what is involved is to use their withheld DAs and salary increases for investment in certain sectors. These may be called workers investment sector, provided the truth that all production emanates from them is not lost sight of.

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VI. Other Items

Inter-Disciplinary Research Methodology Workshop :

The International Disciplinary Research Methodology Workshop organised by the Madras Institute of Development Studies and the Southern Regional Centre of the ICSSR met in the Tamil Nadu Agricultural University, Coimbatore from May 2 to 9 under the Directorship of Dr. V. Rajagopalan, Professor and Head of the Department of Agricultural Economics of the University. The workshop was around the theme, Indicators of Rural Levels of Living and was assisted by Prof. V. Sukhathme as a resource person. It was attended by 25 social scientists (2 anthropologists, 1 sociologist, 2 historians, 2 geographers, 2 psychologists, 2 agricultural economists, 2 statisticians, 1 econometrician, 1 business management specialist and 10 economists) who worked around the sub-themes—conceptualisation in regard to rural levels of living, methods of choosing analysing and agreeing upon indicators, tools and techniques of measurement, instruments and measures to deal with poverty, and a

plan of action research aimed at the means of working through the indicators to raise rural living levels. The workshop produced 12 papers and the discussions carried the inter-disciplinary methodology dialogue to a stage when on poverty there was some conceptual clarification and agreement on its many faceted components. As usual, the economists predominated, while political scientists were missing. The workshop adopted a draft inter-institutional research outline and a declaration which reads: "The ICSSR inter - disciplinary Research Methodology Workshop on Rural Levels of Living held at Coimbatore brought together 25 participants representing various disciplines (Anthropology, Sociology, History, Geography, Psychology, Economics, Commerce and Business Management, Agricultural Economics, Econometrics and Statistics) and the theme chosen for discussion at the Workshop was a continuation of the earlier two Workshops held at Hyderabad in 1974 and at Mysore in 1975. In Hyderabad the Workshop participants arrived at a common measure of identification of the poor and also indicated the major factors responsible for mass poverty in the country. In Mysore the Workshop participants focussed attention on the regional variations in the profiles of poverty and the need to adopt a regional variations in the profiles of poverty and the need to adopt a regional approach for diagnosis and alleviation of poverty.

Following from these two, the Coimbatore Workshop entered into the broader area of levels of living, the conceptualisation of the problem, indicators for measurement and techniques of analysis, so as to develop action oriented programmes for the eradication of poverty. Since the fundamental issues relating to conceptualisation occupied a major part of the Workshop's deliberations, both the areas of agreement and disagreement among the different disciplines received attention. It became clear that different disciplines approach the problem from different perspectives and with different frames of reference. It cannot be claimed that all these differences have been adequately reconciled or even spelt out. But it was recognised that a possible approach to inter-disciplinary research efforts would be for each discipline to attempt to incorporate into its analytical frame at least some of the concepts from other disciplines as variables. It was also noted that in order to reach depth in inter-disciplinary understanding, discussions of this kind must continue both in formal sessions and informally among members of different disciplines. Future Workshops could be organised around a few key concepts such as need, alienation and property which are common to many disciplines but with which no discipline is too closely identified.

The Workshop made an attempt to evolve a set of indicators for identifying and measuring rural levels of living. A tentative frame for continuing studies on rural levels of living was also developed.

The workshop reaffirmed the call made both at Hyderabad and at Mysore to the social scientists to direct their academic interest and talents into the study of the concrete and complex problems of living conditions particularly in the rural areas.

The Workshop makes the following specific recommendations :

(i) that academic institutions should make all efforts to associate themselves with their neighbourhoods, particularly

rural areas, through concrete measures of study and action :

(ii) that the feasibility of some institutions developing permanent 'rural observatories' to gather and process data relating to various aspects of rural life should receive careful attention:

(iii) that research programmes arising from the discussions during the workshop be directed along the following lines:

(a) "researchers working within the confines of their own disciplines should make a deliberate attempt to identify and analyse the border-lines issues:

(b) where institutional facilities are available members belonging to related disciplines should co-operate in undertaking research in common problems pertaining to the neighbouring rural areas:

(iv) that the University/College administrations should encourage research and action oriented programmes related to rural development; and

(v) that finding agencies such as ICSSR and UGC should encourage pioneering research, which may deviate from conventional approaches, in areas relating to conceptualisation, measurement and analysis of levels of living in rural areas."

It was noted that professor Sarveswara Rao is developing a book on the 3 workshops and it was decided to request Dr. Kurien to assess the results of the 3 Workshops.

Tamil Nadu Agricultural University Hostel Day :

The Tamil Nadu Agricultural University celebrated its hostel day on May 2, when the priorities in agricultural research and the importance of extension services to meet the needs of the farmers was stressed: It was also noted that the Madras University Post-Graduate Centre Coimbatore with its six Departments would be moving into the campus of the Agricultural University from 1976-77 for a period of 2 years, when its permanent building will be available at Marduamali, about 5 KMs from the campus.

Institute of Engineers (Student Chapter) :

The Annual Day of the student chapter of the institute of Engineers, Madras, was celebrated on the 6th May. The 2,000 student members used the day to reflect over the changes taking place in engineering education which, inter alia, comprise the problem of the relation between scientific theory and industrial practice, the problem of technological obscelo-scence, the relation of engineers to the programmes of integrated rural development, and the need for co-ordination of the many forms of the formal and non-formal systems of engineering education and training.

NCERT Primary Teachers Orientation:

One of the 4 NCERT orientation camps brought together some 200 primary school teachers from all over India at the TTI, Adyar on the subject, transformation of education. Among the points raised in discussion were the issues of the need for transformation from the exogenous factors of poverty and the illiterate home, and the

endogenous forces of the heavy wastage rates, curriculum irrelevance, low education rate of girls and the class bias. In this context the importance of learning in various forms, by doing, in school and out of school, and compensatory education for first generation learners was emphasised.

AIACHE :

The All India Council of Christian Higher Education organised a contact seminar in Madras for 40 of college teachers who are taking a correspondence course in Higher Education teaching. The problems facing college teachers include, inter alia, the problems of obscolescence, learning methods, abstraction imperatives versus project work, evaluation techniques and society's class impact.

National Solidarity Day :

May 13, the birthday of the President of the Republic was used as an occasion for reflection over the urgencies of national solidarity at a meeting held in Kalaivanar Arangam. Some of the issues raised related to the shared interests of the 600 million people of the country in the defence of the country which has been invaded 4 times, in food grain production, water, power and exports and in the geopolitical realities of the political security of our neighbours in South Asia, where India is a regional power and in the economic aid that is giving to all developing countries.

Board of Continuing Education and WUS Executive Committee :

A meeting of the Executive Committee of the Board of Continuing Education in mid May devoted itself to organising its annual conference on the theme of the New Office of non-formal Education established by the State government, and the participation of all voluntary agencies affiliated to the Board and invitations to resource personnel from Delhi. The conference will be held in mid June or mid July. The WUS executive committee also met in mid May and spent most of its time dealing with the financial problems of the Hostel-Centre—its debt to the State government and its arrears of property tax to the Madras Corporation and dues to the Electricity Board. It decided to leave these matters to a three man committee chaired by the Treasurer, and devote its future meetings to the programmes.

ICSSR and Andhra Mahila Sabha :

The Research Advisory Committee of ICSSR met in New Delhi in late May and reviewed and approved 50 project requests The monthly meeting of the administrative Committee of the Andhra Mahila Sabha reviewed the functioning of the Nursing Home, and the working of the children's ward and examined the possibility of making some structural changes in the committee's composition.

Janata Meal, Coimbatore and GSI, Ooty :

At the end of May, the Avinasilingam Home Science College, Coimbatore, took over the organisation of a one Rupee Janata Meal at Coimbatore bus stand for travellers. At its inauguration on May 26, the fact that this was one of the first efforts at executing the University decision to give 100 marks to each student for community service was emphasised. The Geological Survey of India presented to the Botanical Gardens in Ooty, during its annual flower show a gift of the 20,000

year old wood fossil from its South Arcot forest. The occasion was used to emphasise the importance of science for the young.

University Events :

During May, a vacation month in the University, the events included the inauguration of the 6 week information gallery and briefing of students seeking employment after their graduation, the examination and the confirmation of the permanent site for the post-graduate extension centre at Marudamalai, Coimbatore, the reformulation of the area study programme of the University in view of the UGC advice, the visit by the University team of MIDS in order to negotiate the agreement to be established between the university and the institute, and a number of faculty improvement programmes organisad by the University departments in consultation with the University Grants Commission.

Special Seminar :

The Special Seminar on the Development of Education in Tamil Nadu held its 12th Session on Friday June 25 at which Mr. S. V. Chittibabu's paper on the Open University for Tamil Nadu was reviewed and adopted. The correspondence education programme operated by the Madurai University with about 20,000 students is the largest one of its kind in India, and is the basis for the development of the open university of the future. The programme will soon move into the Science field and later into the area Engineering education. Mysore has now decided to allow any one above 25 years of age to sit for any of its examinations. The possibility of opening up the entrance qualification in this way will be watched as this programme develops into an open university.

June Seminar :

The paper, Social Structure, by Prof. T. S. Devadoss, Lecturer, Centre of Advanced Study in Philosophy, University of Madras, on June 24 — together with a summary of the discussion of the paper at the Seminar Room of the Institute under the Presidentship of Dr. K. K. Pillai, Director of the Institute of Traditional Cultures, Madras appears as the first article in this issue.

Second Article:

An assessment of the Sixth Interdisciplinary Workshop at Coimbatore by its Director appears as the second article.

‘ SOCIAL STRUCTURES ’

By

T. S. DEVADOSS

Lecturer, Centre of Advanced Study in Philosophy, University of Madras.

The term ‘Social Structure’ refers to a group of problems the scope of which appears so wide and the definition so imprecise that it is hardly possible for a paper strictly limited in size to meet them fully.

Studies in social structure have to do with formal aspects of social phenomena, therefore they are ditficult to define, and still more to discuss, without overlapping other fields pertaining to the exact and natural sciences, where problems are similarly set in formal terms or rather, where the formal expression of different problems admits of the same kind of treatment. As a matter of fact, the main interest of social structure studies seems to be that they give the anthropologist hope, that, he may borrow methods and types of solutions from disciplines which have gone far ahead of his own in that direction.

The term ‘social structure’ has nothing to do with empirical reality but with models which are built up after it. This should help me to clarify the difference between two concepts which are so close to each other that they have often been confused, namely those of *social structure* and of *social relation.* It will be enough to state at this juncture that social relations consist of the raw materials out of which the models making up the social structure are built, while social structure can, by no means be reduced to the ensemble of the social relations to be described in a given society. Therefore, social structure cannot claim a field of its own among others in the social studies. It is rather a method to be applied to any kind of social studies, similar to the structural analysis current in other disciplines.

Then the question becomes that of ascertaining what kind of model deserves the name ‘structure’. This is not an anthropological question, but one which belongs to the methodology of science in general. Keeping this in mind, we may say that a structure consists of a model meeting with several requirements.

First, the structure exhibits the characteristics of a system. It is made up of several elements none of which can undergo a change without effecting changes in all other elements.

Secondly, for a given model there should be a possibility of ordering a series of transformations resulting in a group of models of the same type.

Thirdly, the above properties make it possible to predict how the model will react if one or more of its elements are submitted to certain modifications.

Lastly, the model should be constituted so as to make immediately intelligible all the observed facts.

There being the requirements for any model with structural value, several consequences follow. These, however, do not pertain to the definition of structure but have to do with the main properties exhibited by, and problems raised by, structural analysis when contemplated in the social and other fields.

'Social Structure' is one of the cardinal concepts of sociology, but it is not employed consistently or unambiguously. Herbert Spencer, who was one of the first writers to use the term, was too much fascinated by its biological analogies (organic structure and evolution) to make clear what he meant by the structure of a society. Durkheim also left the term vague. Many later sociologists and social anthropologists have tried to give it a more precise meaning, but their conceptions of social structure diverge widely. Thus Radcliffe-Brown regards as 'a part of the social structure all social relations of person to person....In the study of social structure the concrete reality with which we are concerned is the set of actually existing relations, at a given moment of time, which link together certain human beings'.[1] But he goes on to say that the object which we attempt to describe and analyse is *structural form*, i.e. the general relationships, disregarding slight variations and the particular individuals involved. It is structural form which most writers have designated social structure. But Radcliffe - Brown's definition is very broad, as Prof. Firth has pointed out: 'It makes no distinction between the ephemeral and the more enduring elements in social activity, and makes it almost impossible to distinguish the idea of the structure of a society from the totality of the society itself'.[2]

Other writers have restricted the term to the more permanent and organised relationships in society. Thus, Moris Ginsberg regards social structure 'as the complex of the principal groups and institutions which constitute societies'.[3] This conception is also important for the connection which it emphasises between the abstract social relationships and the social groups which give rise to or are involved in them. From this point of view, the study of social structure can be undertaken in terms of institutional arrangements, or of the relations between social groups, or of both together, and this is helpful in the actual study of societies. If we thus restrict the term 'social structure' to mean these more permanent and important relationships and groups, we perhaps need another term to refer to the other activities which go on in a society, and which frequently represent variations from the structural forms. Prof. R. Firth has proposed the term 'Social Organisation' which he defines as the systematic ordering of social relations by acts of choice and decision'. In this aspect of social structure is to be found the continuity principle of society ; in the aspect of organisation is to be found the variation or change principle—by allowing

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[1]A. R. Radcliffe-Brown, 'On Social Structure'.

[2]R. Firth, 'Elements of Social Organisation.' p. 30.

[3]M. Ginsberg, 'The Study of Society', London, 1939.

evaluation of situations and entry of individual choice.

A third approach, which defines social structure in a still more restricted way is that which makes use of the notion of *social role*. Nadel argues that, 'we arrive at the structure of a society through abstracting from the concrete population and its behaviour the pattern or network or system of relationships obtaining between actors in their capacity of playing roles relative to one another.'[4]

Of the different conceptions we have discussed, the most useful seems to me that which regards *social structure* as the complex of the major institutions and groups in society. There is no great difficulty in identifying these institutions and groups. It can be shown that the existence of human society requires certain arrangements or processes which act as functional prerequisites of society. The minimum requirements seem to be: (i) a system of communication, (ii) an economic system, dealing with the production and allocation of goods, (iii) arrangements (including the family and education) for the socialisation of new generations, (iv) a system of authority and of distribution of power, and perhaps (v) a system of ritual, servicing to maintain or increase social cohesion and to give social recognition to significant personal events such as birth, puberty, courtship and marriage and death. The major institutions and groups are those concerned with such basic requirements. From them, others may emerge, such as social stratification, which then influence them in turn.

Structure and Process:

The two terms 'structure' and process are co-related to each other. Every structure exhibits an ordering of parts, and the order and parts change from time to time. We speak, perforce, of structures and processes, but the two abstractions are correlative. Never is there structure without some process; never is there process without some structure. To ask which comes first, either ontologically, or logically, is to ask a fruitless question.

Structure is everywhere obvious in physics, chemistry, astronomy and biology. If it is not obvious, it can be detected in psychology. In sociology, however, it is either overlooked or underestimated. Similarly, Gerth and Mills say that the concept of role is 'the key term in our definition of institution', and 'just as role is the unit with which we build our conception of institution, so institution is the unit with which we build the conception of social structure.'[5] This latter account makes clear that the analysis of social structure in terms of social roles, is not fundamentally different from an analysis in terms of social institutions, for an institution is a complex or cluster of roles.

One further point should be mentioned. A distinction has sometimes been made between social structure as the system of 'ideal' relations between persons and social structure as the system of actual relations. The distinction is most easily made by anthropologists studying small communities who are able to compare informants' accounts of what relations exist and what behaviour occurs, with the relations and behaviour which they themselves observe. Sociologists are not able

4 R. Firth, Op. cit. p. 12.

5 R. Firth, Op. cit., pp. 22-3.

to do this in studying historical societies and even in their studies of present day societies they are often obliged by the size and complexity of the societies to concentrate upon the more easily observed 'ideal' system of institutions as it is expressed in law and in moral and religious codes. But the distinction is important, and sociological research should aim more deliberately than it often does at approaching, by suitable methods, the anthropologists observation of what actually happens in social behaviour.

First, we find that structure has been negated or, where processes were recognised, subordinated. Second, where social structure has been accorded more recognition, it has been interpreted in psychological terms. Third, where structure has been recognised, it has been obscured by abstractions.

Most of the authors whom we cite deal in one way or another with group theories in sociology. For instance, Prof. Warren Brown in his book 'Social Groups' published in 1920 points out that social life implies relationship of one sect or another between individuals, and those relationships inevitably fall into regular channels and forms. Whenever these forms are consistent enough to permit observation and classification, we note a social structure. The outstanding characteristic of social structure is the tendency of the individuals to combine into groups, we cannot have social structure without groups. But when he comes to enumerate the factors which make group life possible, Prof. Brown lists contact, physical basis, homogeneity and—fourth in the list—structure.

Prof. R. M. Mac Iver observes in his book: *Society, its Structure and Change,* that society exists only as a time consequénce, a changing equilibrium of present relationships. It is a process, not a product. In his latest edition, Prof. Mac Iver adds that as soon as the process ceases the product disappears. In his work, we find that the social structure exists only as the creation of mentality, behind the differentiated form lies always the differntiality of mind.

In 1937 came the first and in 1949 the second edition of Talcott Parson's '*The Structure of Social Action*.' Neither edition affords much in the way of a structural theory of society, the latter is especially psychological, not to say epistomeological and phenomenolistic. Parson's interest is in the development of volunteristic theory.

Parsons believes that a generalistic system of action contains four types of elements. The four elements are:

(1) heredity and environment, (2) means and ends (3) values and (4) zeal or efforts. His conclusions are:

(1) the act is the smallest units of sociological analysis (2) actions appear in systems—hence system is the second structural concept (3) system may possess emergent properties not completely analyzable into individual acts (4) systems of social actions may for convenience be treated as structures (5) structures have only a fictious reality; in principle every structure is analysable into unit acts.

The frame of reference for sociology, according to Parsons, should be structural-functional. The structural-functional analysis requires systematic treatment of both *statuses* and *roles of ego* in a social

situation and of the institutional patterns involved.

Thus 'the action frame of reference involves the actor, situation and the orientation of the actor of the situation.' This is the core of Parsons's theoretical interest. To Parsons, orientation is composed of value and motivation. The three types of motivation are: (1) cognitive (ego perceives situation in relation to his needs) (2) cathectic (action has affective or emotional significance,) and (3) evaluative (ego allocates energy to the situation he chooses). These three types of motivation serve as a background to three analytic systems, the (1) *personality*, (2) society and (3) culture. Thus Parsons does not assert social action is *deterministic*. On the contrary social action is *voluntaristic* as the individual does have some choice.

The three fold scheme for an analysis of social systems is presented by Talcott Parsons thus: (1) situational institutions (organisation of roles around natural of biological facts, as in kinship institutions). (2) instrumental institutions (for the attainment of various goals), and (3) integrative institutions (relating individuals to one another as in social stratification and authority). For Parsons, an adequate theory proceeds from the whole.

The very concept of social structure which is basic to all forms of sociological analysis also appears to confirm the image of sociological pre-occupation with statistics since the term as used by many sociologists refers to state inter-relation among parts of a system, e.g., the relation between husband and wife, workers and employers, or the position of a minister in a church are all structured. As Max Weber emphasized such relationships always involve 'at least a minimum of mutual orientation' of the actors involved.

The meaning relevant in this context is always a case of the meaning imputed...in a given concerete case on the average or in a theoretically formulated pure type. Even in case of such forms as social organisation as state, church, association or marriage, the social relationship consists exclusively in the fact that there has existed, exists or will exist a probability of action in some definite way appropriate to this meaning. A state for example ceases to exist in a sociologically relevant sense whenever there is no longer a probability that certain kinds of meaningfully oriented social action will take place. (Max Weber).

Basically, when we say that groups or systems have an organisation or structure we refer to the standardized normative patterns, rights, rules of behaviour and the like. Consequently at the core of sociological analysis is a concern with *norms*, with expected patterns of behaviour held in the minds of individuals. The sociologist, therefore, is concerned with all the sustains or undermines norms, as well as those which result in deviance, innovation or rebellion.

Social Structure :

Society—Individual—Culture—Civilization:

Human beings have to become psychologically structured, in such a way that they *'want to act as they have to act'* and at the same time find gratification in acting according to the requirements of the culture. According to Fromme, there must be some nuclear character structure

'shared by most members of the same culture' i.e., 'social character', the functioning of which is essential to the functioning of culture as a going concern. Child training viewed in the context of social structure is 'one of the key mechanisms of transmission of social necessities into character traits' (Irving Hallowell).

The behavioral manifestations upon which we depend for constructing our substantive pictures of cultures are always rooted in the personality structure of individuals. The only way in which the culture may be said to perpetuate itself is through the characteristic psychological structurization of a group of individuals. It is only, through organised personalities, not 'individuals' or 'minds' that human societies and culture attain living reality.

Culture can hardly be an abstraction for those to whom it is in intellectually an unexamined mode of life. Human beings have died in defence of concrete beliefs, which abstractly viewed, may be characterised as a part of their culture but which, psychologically considered, take on the one kind of palpable reality that motivates actual behaviour.

For an understanding of personality structure, its development and relationship to a typically human mode of existence, cultural content in its full range and depth cannot be ignored.

While a human individual on account of his inherent organic potentialities, can adjust himself to life under a variety of conditions a particular culture in so far as we assume it to the dependent upon a characteristic psychological organisation of a group of individuals, cannot maintain its existence unless this condition is satisfied. In terms of this hypothesis, man' potentialities for readjustment and creativity are thrown into sharp relief as constant human phenomena. Particular cultures may rise, flourish, and disappear, but other modes of life take their place. While viewed in a provincial setting and in limited temporal perspective, it may seem adequate to speak of individuals as *carriers* of a culture or the creatures of a culture, this does not take into account all that we know about the nature of man. If we fail to give due weight to man's potentialities as creator and recreator of the kind of life that is his most distinctive attribute, how are we to account for the emergence of a cultural mode of existence in the first place? Surely, we must assume that it has been through the development of his own potentialities that man has made the world intelligible to himself in livable terms. Whatever form these images may have taken, they have emerged out of human experience, transmitted into symbolically articulated terms. Since creativity in the individual human being, in so far as we know anything about it, involves unconscious processes, we may assume those equivalent factors have been among those operative throughout man's history. If, therefore we examine the relation between the individual and culture only with regard to the manner in which he becomes groomed as a participator in a static provincial and continuing mode of life, we may avoid, but never solve, the more perplexing problems that arise if we keep man as a whole constantly in view. When we do this, cultural changes, acculturation and personal readjustment come into the foreground.

Personality, culture and society form systems of relations that function as integral wholes in a wider universe of

other-than-human relality Considered *from an integral point* of view. they have no independent existence, apart from the social adjustment of the individuals involved and the organization of human experience, *in a manner* that typifies the human situation.

By culture, we mean the ideational aspects of social life, as distinct from the actual relations and forms of relationship between individuals and *by a culture* the ideational aspects of a particular society. *The distinction which* Alfred Weber made between 'culture' and 'civilization' can be recognized by distinguishing between material and non material culture. According to Alfred .*Weber's conception*, material culture is transmissible, communicable, while non-material culture is unique, incommunicable and bound to time and place. Alfred Weber made the distinction because he wished to contrast the growth and diffusion of science and technology with the uniqueness and independence of cultural products in each epoch and place. But it is not demonstrated that there is no development in the cultural sphere, or that cultural products cannot be diffused; and at the same time it is evident that within a particular society the material and non-material elements of a culture are closely inter-connected. Finally, by a *civilization* is ment a cultural complex formed by the identical major cultural features of a number of particular societies. We might for example describe Western capitalism as a civilization in which specific forms of science, technology, religion, art and so on, are to be found in a number of distinct societies.

One outstanding problem of present-day Indian culture is the relation between traditional cuture and the values and beliefs which have been introduced from the West. India has imported from the West modern science, technology and methods of business enterprise, India may acquire science and technique from the West but will retain her religion, philosophy and art, which so far as they change will change inpredictably and under the influence of outstanding individual working within the traditional culture. In india, to take one example, the existence of socialist and communist parties reveals the introduction of Western political philosophies and values The congress party itself has a political doctrine which is largely inspired by Western sources. Further the existence of parliamentary government in India shows the acquisition not merely of a system of government machinery, but also of political values and coneptions of how a political community should be organised. No doubt many of the values can be related to particular elements in the ethical doctrines of Hinduism but that is only because (contrary to Weber's view) there are many similarities in the doctrines of major world religions. The importance given to particular aspects of these doctrines may well vary with changes in matarial culture and in social structure. This is not to deny that Indian culture has still some unique features, but to ask that they should be considered in relation to other features, which are by no means unique, and in relation to present social changes. How are the diverse elements of culture, traditional and western, perceived and grouped by individuals, and by individuals in different social groups ? How do they appear in classical literature ? There are in India, fascinating opportunities for investigations. Films, radio, TV and the press are important sources of data besides literature. The educational system imparts, in a formal way, cultural values and it will be discussed later. So also will the changes in law. In all the

fields sociological research should be able to show how culture changes or persists, how new elements are incorporated or rejected and how traditional elements are modified or neglected.

On the following pages, we shall examine in greater detail, some of the elements of social structure—the major institutions and groups within society with special reference to Indian society.

Economic Institutions:

Modern economic theories have not, on the whole, shown much interest in the study of economic structure, although many text books on economics contain brief accounts of the organization of industry, the division of labour, the structure of enterprises, and so on. Economic sociology, on the other hand, is almost entirely concerned with problems of economic structure.

The Division of labour:

One of the best known of Durkheim's works in his study of the division of labour in society, in which he analysed the social functions of the division of labour and sought to show how in modern societies, in contrast with primitive societies, it is the principal source of social cohesion or social solidarity. Other sociologists have discussed the division of labour largely in its connection with social stratification. Karl Marx outlined a theory of social stratification which made it the effect of the division of labour, and especially of what he called the 'first great distinction between manual and intellectual labour'. G. Schmoller presented a more elaborate theory which defined classes as 'occupational groups' created by the division of labour and maintained by *heredity*. Such theories have an obvious relevance to the Indian Caste System in which differentiation is very largely in terms of traditional occupations.

The division of labour has not become so extensive in India as in the advanced industrial countries. Nevertheless, industrialisation is bringing about similar difficulties and problems, and in the industrial areas, research is called for. Moreover, a particular interest attaches to the effects of the growing division of labour upon the caste system. In the past, new castes were often formed where changes in technique occurred or where entirely new occupations came into existence. It is important to see how far this is taking place in the industrial occupations, or on the contrary, whether caste divisions are giving way to trade union and class divisions. At the same time it is of interest to study entry to the liberal professions in relation to caste distinctions, to see how far such distinctions are maintained in new forms. A broader problem should also be mentioned. As organised in the caste system, the division of labour had the integrative functions which Durkheim emphasized. In the village economy caste, like the medieval guilds, ensured the performance of necessary functions (by passing on crafts skills, etc.) and these functions were organised by the direct exchange of services between castes (the jajmani system). In an industrial and money economy, the division of labour becomes far more complex, and the exchange of services is accomplished through the market or central planning, or a combination of both. As a result, caste becomes so much the less important from the point of view of the division of labour ; indeed like the medieval guilds caste groups may be a serious obstacle to economic develop-

ment. The caste system retains some integrating functions, *on the cultural level*, but these are likely to be less and less important as social cohesion comes to depend increasingly upon the economic division of labour and the sentiment of nationality.

Gandhi

Marx as well as Durkheim and Parets analysed the problem of man's alienation in the context advanced industrial societies characterised by the system of division of labour and the items of capitalism. Gandhi's ideas fall within the same universe of discourse, because he was a critic of such societies and pulled out all his weight in warning his fellow men against the dangers of capitalist development and leading his country, if possible into a non-capitalistic path of development that did not create a 'factory civilization'. In simple societies commonly held sentiments and ideas—the "collective conscience"—is the binding as well as the constraining force. In an advanced society solidarity rests upon the division of labour. "Solidarity" if it has a moral basis, is something which would not necessarily be inconsistent with humanism. Gandhi was undoubtedly a believer in moral solidarity. But solidarity can easily be an engine of oppression when the moral sanction *underlying it* fails to be 'internalised' in human beings. Gandhi desired social solidarity but not social solidarity created by the impersonal system of division of labour under which the sense of co-operation for common ends is lost and man is lost is the vast mechanical organisation characteristic of what Gandhi called 'factory civilization'.

Property :

Property in Hobhouse's phrase, 'is to be conceived in terms of the control of man over things', a control which is recognised by society, more or less *permanent*, and exclusive. Common Ownership by a joint-family occurs in many societies. Property for power and unlimited individual acquisition of wealth was a product of capitalism. The recent history of property is very largely a history of the imposition or re-imposition of community restraints upon the individual owners of economic resources, and in a later phase the deliberate re-distribution or appropriation of such resources by the community. Most recent writers have emphasized the complexity of property systems and have rejected the notion of a unilinear evolution.

The nature of property rights in the Hindu joint family in the vedic period is not clear. The vedic passages all negative the idea that the property of the family was family property; it is clear that it was the property of the head of the house, usually the father, and that the other members of the family only had moral claims upon it which the father could ignore. There is no clear indication in vedic literature that the patriarchal family was the only type of family organization. There were tendencies towards the disintegration of the joint family, and the scope of individual property was broadened, but the old patriarchal tradition was broadened but the old patriarchal tradition was utilized to strengthen the joint family. Thus at no period was there common family property, but in later periods there were restraints upon the powers of the family head to alienate property.

The principal form of productive *pro-*perty was until recently, land and the

tenure of land was regulated by Hindu customary law, later supplemented by Muslim law. The Bengal Permanent Settlement Regulation Act of 1793 created in Bengal, and later in other parts of India, definite proprietary rights for the zamindars. The *Ryotwari* System created a class of peasant proprietors in Bombay and Madras. The general results of British legislation were, therefore, to establish clear proprietary rights in land, to make land an alienable, saleable commodity and thus to bring it within general properrty system of a capitalist economy.

The Government so far has been protecting the right to property as guaranteed under the Indian Constitution. This does not mean that the haves could exploit the have nots by virtue of their wealth. Gandhi pleaded for the working of economic equality which means abolishing the eternal conflict between capital and labour. It also means the levelling down of the few rich in whose hands is concentrated the bulk of nations' wealth on the one hand, and a levelling up of the semi-starved naked millions on the other. Gandhi observes: 'Inequalities in intelligence and even opportunity will last till the end of time ......while we are born equal, meaning that we have a right to equal opportunity, all have not the same capacity. It is in the nature of things, impossible...People with talents will have more, and they will utilise their talents for this purpose......If they utilise their talents kindly, they will be performing the work of the State. Such people exist as trustees, or no other terms.

In short, the real meaning of economic equality is to each according to his need. Gandhi did not want to produce a dead equality where every person becomes or is rendered incapable of using his ability to the utmost possible extent, for such a society carries with it needs of ultimate destruction. Gandhi examines how egual distribution can be effected. He observes: 'Let us consider how equal distribution can be brought about through non-violence......First, a man would reduce his wants to a minimum, bearing in mind the poverty of India. His earnings would be free of dishonesty. The desire for speculation would be renounced...... there would be self-restraint exercised in every sphere of life......trusteeship of the wealthy for superflous wealth possessed by them'.

The Indian economy is still primarily a village economy. As at present time, more than 4/5ths of the population live in villages, while 78% are engaged in agricultural occupations.......Industrialisation began in our country in 1850. Before 1947, industrial development was one-sided, the principal manufactures were in light industries, while iron and steel production was at a low level and heavy engineering practically non-existent. Since the achievement of independence industrialisation has progressed more rapidly. At the same time, much effort has been devoted to raising the level of productivity in agriculture as an indispensable basis for capital accumulation and industrial expansion.

As we read Gandhi's thought, we find that he laid emphasis on (a) village oriented economy (b) on a simple way of life; and (c) on a co-operative socio-economic structure. This aim and purpose in emphasizing this obviously was to make it possible and easy for all to lead a life dedicated to the cause of truth and non-violence. This was the central theme of his life. Gandhi in short insisted that man should be the centre of life and of all the process of production, exchange and distribution.

Political Institutions:

Political Institutions are concerned with the distribution of power in society. Max Weber defined the state as 'a human community which successfully claims the monopoly of the legitimate use of physical force within a given territory.' Thus the state is one of the important agencies of social control, whose functions are carried out by law, backed ultimately by physical force.

The general characteristics of modern industrial societies are (1) the political community as a nation-state. (2) the existence of political parties and pressure groups (3) the election of the political executive by Universal adult suffrage, and (4) the administration of Public affairs by a large centralized bureaucracy.

India has adopted with considerable success, western political institutions. Parliamentary system of government has come to stay in India. Political parties function more or less on the western model and illiteracy has not proved a serious obstacle to the exercise of electoral choice. The predominance of all-India parties indicates the extent to which political unity is firmly established. Regional differences of culture and language have found political expression in debates on the number and delimitation of the states composing the Indian Union, but they have not until very recently given rise to important organized political movements. The influence of caste on political life is a factor to be noted. Studies of party composition, organization and ideology which would give some indication of the different influences upon political affiliations have yet to be made. Students are the principal source of recruitment to active political work, and this fact accounts in part for the prevalence of factionalism in the major parties.

A notable feature is the existence in India of a distinct pattern of political thought and behaviour inspired by religious doctrine and gandhian politics, which is directly opposed to the political arrangements represented by the western style party system. The influences of this pattern can be seen in the importance attributed to the village reform movement (Bhoodan Gramdan movement) of Acharya Vinoba Bhave and the Sarvodaya movement led by Sri Jaya Prakash Narain and others. Gandhi believed in centralization of political life and society. Gandhi's view is that a state is perfect and non-violent of it governs least. We can see from the examination of political institutions similar problems to those in the economic field, it is also evident how the political bond may be reinforced by other social relations or may come into conflict with them.

Social Institutions and Structures:

The family: The individual nuclear family is a universal social phenomena. In the nuclear family or its constituent relationship, we see assembled four functions fundamental to social life,—the sexual, the economic, the reproductive and the educational. The universality of the nuclear family does not mean the family structure is everywhere the same. On the contrary it is extremely variable. The independent nuclear family is characteristic of modern industrial societies. Its predominance seems to be due to the growth of individualism, reflected in the property, law and general social ideals of individual happiness and self-fulfilment and to geographical and social mobility.

The composite forms of the family are to be found frequently in primitive societies, but also in many non-industrial societies. In Europe, the Yugoslav form of the extended family, the Zadriuja survived until the beginning of the precent century. Different types of extended family are still common in Asia, even in the industrialized country such as Japan. In India the joint family has existed since the earliest times. It was in the past a corporate body with property held in common, common worship of a tutelary deity and authority exercised by the head of the family (usually the eldest male). According to the Hindu law the family property was strictly impartible, but partition was infrequent and it was quite unusual, for families to comprise three or four generations, living working and eating together. Besides property and work, religion was in important force uniting the joint family. In recent times the importance of the joint family has gradually declined.

Economic changes have exerted an important influence, especially in the diversification of employment and the fostering of an individualistic acquisitive spirit. The latter is reflected in changes in the law of property. After the establishment to British rule in India there was increasing resort by Hindus to the power of testamentary disposition of property and an act of 1870, recognized will-making along the lines of English law. Later legislation further modified the legal position of the joint family, the Gains of learning Act 1930 recognized an individual right to property acquired through an education, paid out of family funds, while the Hindu law of inharitance. (Amendment Act of 1929) allowed matrilineal as well as patrilineal inheritance. The Hindu Succession Act 1956 is a further step in the direction of establishing individual property rights.

Marriage :

The forms of marriage are as diverse as the types of family system. The basic structure of the nuclear family is little affected by the diversity of marriage customs; it is rather the differences between the independent nuclear family and the composite forms of the family which influence marriage. Monogamy is the prevalent form of marriage in all societies, for the good reason that sex ration is approximately 1 : 1 in most times and places. The influence of religion has been very strong in the sphere of marital relations, and some of the major religions, for example Hinduism and Roman Catholicism, have not allowed divorce. According to Hindu law, marriage is a sacrament and not a contract. The Hindu Marriage Act, 1955 has brought in significant changes, in that it allows inter-caste and inter-religious marriages, prohibits child marriage and dowry. It is significant to note that the Dowry Prohibition Act of 1961 makes it an offence to give, take or demand dowry or to abet the giving of dowry or taking of dowry. Punishment for controvention extends up to six months imprisonment and a fine up to Rs. 500/-.

Today we need a new philosophy of marriage. Education for successful marriage begins in infancy. On the success of today's family depends the success of those established a generation hence. We are aware of the fact that marriage and family living will continue to change, just as everything in life changes. Changes are brought about in many ways. Education is one such means. The highest

service that education can render to humanity is to contribute to the flowering of an integrated personality. The future rests with the young men and women of Bharata Desha. Will they rise to the occasion to face the challenge of the evil of social customs and help to a society based on the principles of social justice and equality.

Social Stratification :

The division of society into classes or strata, which forms a hierarchy of prestige and power, is almost a universal feature of social structure. Sociologists have commonly distinguished four main types of social stratification namely slavery, estates, caste and social class and status. These aspects will be discussed oraly during the seminar.

Social control :

The term, social control may be regarded as referring to the aggregate of values and norms by *means of which* tensions and conflicts between individuals and groups are resolved or mitigated in order to maintain the solidarity of some more inclusive group, and also to the arrangements through which these values and norms *are communicated* and instilled. *These aspects*, which will be discussed during the seminar are : *custom, Public opinion, religion and morality, law and education.*

TABLE - 1

PHENOMENON OF URBANIZATION
RURAL AND URBAN POPULATION 1921-1971

Year	Rural	Urban
1921	88.6	11.4
1931	87.9	12.1
1941	86.1	13.9
1951	82.7	17.3
1961	82.2	17.8
1971	78.0	22.0

Table I indicates the upward trend of rapid urbanization that has taken place during the last six decades.

The Planning Commission of India places the annual increase of population to 120 million by 1981. It is mainly because of the process of industrialisation and economic growth in urban areas due to development plans that rural people are attracted to cities for employment and settlement. Is this a healthy sign ?

TABLE - 2

PROJECTED INCREASE IN URBAN HOUSEHOLDS 1966—1976 (in Millions)

Year	Projected number of households	Increase over last 5 years. Number	Percentage
1961	15.6	—	—
1966	18.6	3.0	19.2
1971	22.5	3.9	21.0
1976	17.7	5.0	22.2

TABLE - 3

*POPULATION PROJECTION 1966-1976

Year	Total in millions	Urban	Increase in Years	Total percent
1961	439	78.8	—	18%
1966	492	95.9	12%	19%
1971	555	116.0	13%	21%
1976	625	142.0	15%	23%

*Source: India's Urban Housing...Part I p. 24

TABLE - 4

RELIGION-WISE BREAK UP OF INDIA'S POPULATION 1961 CENSUS

Religion	Population
Hindus	366,526,866
Muslims	46,940,799
Christians	10,728,086
Sikhs	7,845,915
Budhists	3,256,036
Jains	2,027,281
Other religions	1,611,935

1971 CENSUS

Major Religious Communities	Population	Percentage to total population	Percentage increase in 1961-1971
Hindus	453,292,086	82.72	23.69
Muslims	61,417,934	11.21	30.85
Christians	14,223,382	2.60	32.60
Sikhs	10,378,797	1.89	32.28
Budhists	3,812,325	0.70	17.20
Jains	2,604,646	0.47	28.48
Scheduled Castes	79,995,896	14.60	24.18
" Tribes	38,015,162	6.93	27.23

TABLE - 5

*HIGHEST POPULATION IN THE WORLD

Nation	Population in millions
1. China (Mainland)	730
2. India	524
3. Soviet Union	238
4. United States	201
5. Indonesia	113
6. Pakistan	110
7. Japan	101
8. Brazil	88
9. Nigeria	63
10. Federal Republic of Germany	58
11. United Kingdom	55

*Source : United Nations Demographic Year Book 1968.

TABLE - 6

THE DEMOGRAPHIC BACKGROUND

Decade	Requistered		Estimated	
	Birth rate	Death rate	B. R.	D. R.
1931 to 1940	34	23	45.2	31.2
1941 to 1950	28	20	39.9	27.4
1951 to 1960	22	11	41.7	22.8

The above table will give birth and death rates per thousand from 1940 to 1960 of the country.

*BIRTH AND DEATH RATES AND INFANTILE MORTALITY

Year	Birth rate	Death rate	Infantile Mortality
1961	23.1	10.1	83
1962	22.9	9.7	81
1963	22.6	9.6	78
1964	21.8	8.9	75

*Source : Health Survey and Development Commission Report, Vol. II, p. 17

TABLE - 7

AGE STRUCTURE—1960

	Age group	Percentage of total population
Infants and Children	upto 4 years	15.0
Boys and Girls	5 to 14 ,,	26.0
Young men and women	15 to 24 ,,	16.7
Middle aged men and women	25 to 44 ,,	11.0
Elderly persons	45 to 54 ,,	8.0
	55 to 64 ,,	4.8
	65 to 74 ,,	2.1
	75 and over	1.0
	Total	100.0

AGE-STRUCTURE - 1971 CENSUS

Age group	0 to 14	15 to 19	20 to 24	25 to 29	30 to 39	40 to 49	50 to 59	60 +
Percentage of total population	42.0	8.7	7.9	7.4	12.6	9.3	6.1	6.0

TABLE - 8

TAMIL NADU STATE 1971 – CENSUS – DATA

Madras City area	:	128 Sq. Kms.
Population	:	2,469,449
Area of the State	:	130,069 Sq. Kms.
Population of the State	:	41,199,168
Males	:	20,828,021
Females	:	20,371,147
Sex Ratio	:	978 females per 1000 males
Percentage of Literates	:	39.46%
Percentage of Urban population to total population	:	30.26%
Birth rate for 1972	:	24.4
Death rate for 1972	:	8.4

TABLE - 9

Agriculture offered employment to over 126 million people in 1971 against 131 million in 1961.

SOME MAJOR FACTS ABOUT INDIAN AGRICULTURE 1971—1972

Total geographical area	328.0	million	hectares
Total reporting area	306.0	,,	,,
Area not available for cultivation including forests	111.5	,,	,,
Land for non-agricultural uses and barren lands (respectively) —	16.4 29.3	,, ,,	,, ,,
Other uncultivable lands—	33.4	,,	,,
Fallow land	8.7	,,	,,
Current fallows	12.6	,,	,,
Net area shown	139.4	,,	,,
Area shown more than once	24.6	,,	,,
Gross area shown	164.0	,,	,,
Net area irrigated	31.6	,,	,,
Gross area irrigated	38.6	,,	,,

Source : Survey General of India

TABLE - 10

INDEX OF PRODUCTION ENDING 1961-62

Year	In Food Grains	Non Food Grains	All Commondities
1968—69	115.7	113.2	114.8
1969—70	123.5	120.5	122.5
1970—71	133.9	126.6	131.4
1971—72	132.0	128.9	130.9
1972—73	121.2	119.4	120.6
1973—74	130.3	134.1	131.6

TABLE - 11

MUNICIPAL CORPORATION IN INDIA—1975

Names	Date of establishment	Area of Jurisdiction	Annual wage & salary bill of corporation (Rs. in million)	Amount spent on Education
Madras	29-9-1888	128.83	100	37.9
Bombay	1888	437	272	104.15
Calcutta	1727	104	92.34	129.4
Delhi	7-4-1958	1,399	197	100

* * * * * * *

Summary of Discussion

In the discussion of the paper at the Seminar held in the Seminar Room of the Institute on Thursday, the 24th of June 1976, under the Chairmanship of Dr. K. K. Pillay, Director, Institute of Traditional cultures, Madras, the Chairman observed that the subject was wide in scope and coverage. Research in this field varied in methodology and concept according to the discipline concerned There was, however, need to co-ordinate research results as society is an organic whole and the study of change in basic institutions and structures requires an awareness of this fundamental factor.

The author presenting the paper stated that social structures could be studied as co-relations between pivotal institutions like kinship, family patterns, religious and political institutions, characterising a given societal framework. The interaction of these led to the evolution of personality norms, codes of social relationship and behaviour and stratification. Coming to the Indian scene, there is a paradoxical quality of unity in diversity. While there is diversity of language and religion and strongly marked regional cultural patterns, the unity lies in a basic conservatism, in the tacit acceptance of caste by almost all religio-social groups and the unity of a sub-continental culture and the secular democratic form of India's constitution. The concept of caste is linked with social order and occupation. The caste groups have served, in many cases, as composite education and welfare agencies and still continue to function in spite of Government agencies. Moreover, some of these groups have specialised in certain activities. Examples may be cited of Christian missions in education, Parsis and Jains in commerce, industry and banking, Syrian Christians in plantations and banking, Daudi Bohras in trade etc., Similarly religion and caste have played a role in political affairs. Some of the other distinctive features of the caste system are the hierarchical structures, distinctive modes of dress, rituals, customs and traditions. Structural changes in society are caused by inter-action between urban and rural ways of life and the changing role and status of women. The goal or independent India is a casteless and classless society as spelt out in the directive principles of the constitution. Education, adult sufferage and Sarvodaya activities have led to some progress in this direction. Measures to abolish untouchability have contributed to the evolution of an egalatarian society. The position of women in India has begun to change under the impact of industrialisation and urbanisation which have weakened the structure of the joint family. Emancipation from social restrictions imposed by tradition has been furthered by acceptance of accidental standards of behaviour. However, customs and traditions still have a hold on Indian Society. An instance is the dowry system which persists in some form even in spite of legislation. Mobilising public opinion is an important factor in achieving changes in social structures in the desired direction.

In the discussion that followed it was pointed out that the joint family was being modified by economic factors and education of women, which encouraged articulate individualistic attitudes. It was, however, unnecessary to attribute natural personal differences to increasing modernisation of women as these occurred even in traditional families and societies. The origin of the caste system may be traced in some measure to division of labour in the early Indian communities. The view was expressed that dowry in its present form, with its accretion of extortion, was undesirable. Its rationale lay in some form of financial assistance being extended at the beginning of a couple's married life. The evaluation of social structures has to be made against the criterion of their contribution to social and economic development of a nation. In this context the development of social structures have to be reviewed in its contributory role as instruments of change and development. It was also suggested that as the subject of the paper covers a vast field, it would perhaps be better to discuss in detail aspects like Sarvodhaya.

The Interdisciplinary Research Methodology Workshop on "Indicators on Rural Levels of Living"

Assessment by
Dr. V. RAJAGOPAL,
Director, Prof. and Head of the Department of Agricultural Economics in Tamil Nadu Agricultural University

Introduction :

This workshop is one of such workshops organised by the Madras Institute of Development Studies and Indian Council of Social Science Research, Southern Regional Centre, Hyderabad in collaboration with any other institution. In this case, the Tamil Nadu Agricultural University, Coimbatore collaborated in the conduct of the workshop. This is in pursuance to the decisions taken at the Fifth meeting of the Heads of Departments of Social Sciences of the Southern Universities held on December 13 and 14, 1975 at the Madras Institute of Development Studies in co-operation with the Indian Council of Social Science Research, Southern Regional Centre, Hyderabad. At this meeting, as among others, it was decided on the basis of the review of the documents (Doc. VSS/5) that the Sixth Inter-disciplinary Research Methodology Workshop will be held in Tamil Nadu Agricultural University from Sunday May 2, to Sunday May 9, 1976 and Dr. V. Rajagopalan, Professor and Head of the Department of Agricultural Economics will be the Director of the Workshop. It was also decided that the theme of the workshop will be "indicators of rural levels of living", which will broadly cover the following five areas :

(i) Conceptualisation in regard to rural levels of living.

(ii) Methods of choosing, analysing and agreeing upon Indicators.

(iii) Tools and techniques of measurement.

(iv) Instruments and measures to deal with poverty.

(v) A plan of action research aimed at the means of working through the indicators to raise rural living levels.

II. The Programme

The workshop was inaugurated on May 2, 1976 at 10-30 A. M. by

Dr. G. Rangaswami, Vice-Chancellor, Tamil Nadu Agricultural University, Coimbatore. Dr. Malcolm S. Adiseshiah, Director, Madras Institute of Development Studies and Vice-Chancellor, University of Madras presided. The Professors and Heads of Departments of the various faculty of the Tamil Nadu Agricultural University attended the inaugural session. The workshop business sessions commenced on May 2, immediately following the inaugural address, and continued up to May 9. Twenty four delegates representing various social Science disciplines namely, anthropology, economics, agricultural economics, econometrics and statistics, geography, history, psychology and sociology participated in the workshop. The list of participants with their addresses and the final programme are appended.

The President, Dr. Malcolm S. Adiseshiah as the Director of the Madras Institute of Development Studies in his address traced the course of a series of discussions as among various social scientists on the concept of poor, the methodological issues involved in regional planning for eradication of poverty and focussed on the problems centering around deprivation and alienation. He emphasized the need to analyse critically the various conceptual issues relating to the levels of living, to specify the indicators of rural levels of living, and measurement techniques, and to formulate a research project of an interdisciplinary nature.

Following the guidelines of the President, the business session concentrated its attention on these issues and the related questions raised in the papers presented by the social scientists. On May 2 to 4, the discussions were on papers submitted by the economists, agricultural economists and econometrician. There were five papers.

Prof. C. T. Kurien (Economics) in his paper brought out the theoretical problems in understanding the indicators of the rural levels of living and emphasised the need to involve other social science disciplines to develop proper perspectives of rural levels of living. He attempted in his paper to analyse the problems relating to the measurement, analysis and policy instruments in reference to levels of living. He pointed out that one of the conceptual problems of economists is that "need" is unanalysed "physical term" and cannot easily be dealt with in terms of economists' analysed concepts of income, costs, prices and the like. He further stated that the problem is the incompatibility of the unanalysed categories with analysed categories.

Prof. P. K. Aiyasamy (Agricultural Economics) in his paper analysed the causes for poverty in rural areas particularly among the agricultural sector and approached the problem from the production point of view. The problems relating to concepts and measurements and difficulties in quantifying factors—tangible and intangible—as applicable to rural setting, were discussed. Nine factors were identified as influencing the rural levels of living. Six policy strategies were suggested for improving the rural levels of living. Finally the need for establishing socio-economic observatories for monitoring rural responses to development programmes was stressed.

The paper by Prof. N. S. Iyengar (Econometrics) while recognising the

conceptual difficulties in understanding rural levels of living, discussed the potentialities of specific tools such as (i) regression and correlation analysis, (ii) Fractile graphical analysis, (iii) concentration curves and (iv) co-variance analysis for analysis and measurement of rural levels of living. Among others, he suggested a type of input-output table showing the inter community flow of incomes in the selected village to bring out several important features of the social framework.

Prof. Lakshmana Rao (Economics) in his paper identified the poverty groups and difficulties in conceptualisation and measurement of poverty—under the conceptual framework, the focus was on income distribution below the poverty line and socio-cultural characteristics of the poverty groups. He emphasised that a poverty index should be constructed which would be more broad based than the existing ones possibly a social welfare index, which gives larger weights to the consumption of the lowest income groups.

The paper by Prof. Joseph (Economics) dealt on various philosophical, conceptual and methodological issues. He observed that the economists were familiar with the conceptual tools of analysis and that in relation to social phenomena the appropriate tools must be identified as socio-economic indicators which could be quantified with the aid of statistical techniques. As among others, he suggested a social survey with a view to discern socio-economic variations affecting rural levels of living, which might be both descriptive and explanatory.

There were two papers from geographers. The papers discussed about the spatical arrangements, spatial distribution, spatial integration, spatial interaction and spatial process. Prof. Vijayaraj (Geography) stated that diffusion of innovations would essentially a spatial process and the spatial diffusion of technical innovations could significantly affect the patterns of living in any region. He pointed out the need for spatial analysis to understand the nature and distribution of rural levels of living in a region.

Prof. Reddy (Geography) observed that poverty had to be studied with reference to place and time because of its spatial and temporal variations and that a spatial geographical study should identify the hierarchy of the regions on the basis of different levels of living and this would provide a basis for assigning necessary priorities in solving problems.

There was one paper from Prof. Gopala Sarana (Anthropology). The concept of 'style of life', a term much more wide ranging than that of the levels of living, was emphasised here. The approach should be to understand the society from a scientific approach in terms of its structure and ethos. He said that though analytical and heuristic concepts of various social science disciplines could be useful in conceptualising the levels of living, the anthropologists would like to stress a point "that the researchers should not ignore peoples' conception of the phenomena under study".

Prof. Muthayya (Psychology) observed that our endeavour should be to understand the indicators of rural levels of living from possessions in terms of personal resources, and activities in terms of what they do, and behaviours in terms of socio-psychological dimensions. The

paper brought out the various studies conducted in India in socio-economic status, motivation and related issues. It was reported that factor analysis of few of the identified variables both personal and psycho-social revealed the emergence of one factor viz. Socio-economic status having higher factor loading in three of the personal variables namely, land holding, cattle wealth and family incomes. The another factor specified was the total income. The paper made an analysis of the relationship batween the socio-economic and socio-psychological variables. He suggested that land holding, income, total value of assets, material possessions, social participation, cattle wealth, mass media contact, mobility rate, health and nutritional status, family size and children attending the school could be considered for studying relationship with economic and socio-psychological variables as indicators.

The note from Prof. Farooq (Psychology) explained a model illustrating the inter-relationships as between (i) general behavioural variables, (ii) capacities, and (iii) environment and by process of analysis endeavoured to specify the sources of poverty. He identified three groups of indicators such as reflective, diagnostic and counselling, and also observed that the major sources of poverty could be lack of motivation, and skills.

The paper by Prof. Ravindran (Sociology) identified the causes of poverty as personnel, geographical, economic and the solution for eradication of poverty would be appropriate social technology.

The paper from Prof. Subramanian (History) dealt with the historical causes leading to poverty. He stated that he had no means to knowing anything about this problem ; for if the economists or the sociologists could get the data, after allowing for sufficient lapse of time, he would put the stratification to test with reference to the consequences of the stratification and make history.

The Director Prof. Rajagopalan presented a guideline paper explaining the indicators of level of living index as formulated by the UN experts. This seven fold indicators was disscussed at length in the context of earlier observations with reference to the Indian rural set up.

Prof. Sukhatme participated and provided guidance on the papers discussed from 2 through 5 May 1976.

In the final session, the statement of social scientists and the declaration were finalised (copy enclosed).

Based on the subject matter content and wide ranging discussions from the different perspectives of the social scientists, Prof. Lakshmana Rao and Dr. Upadhyay, formulated a guide line for undertaking interdisciplinary research projects (copy enclosed) and the various aspects in relation to existing state of knowledge on conception, measuement and tools of analysis were discussed.

III Assessment :

In sum, the discussions were involved and productive. The participating social scientists could gain a deep insight in the multidimentional issues in research and policy measures relating to the conceptual and methodological problems of rural levels of living and formulating acceptable indi-

cators for rural levals of living. For some, the emphasis was to look at the society from 'individual' point of view on the basis of socio-enonomic environs, and for others to look at it as a 'whole' from a wider perspective. Both these approaches are relevant to understand the socio-psychological and the economic phenomena like levels of living and what we need is a comprehensive understanding of the individual and society as an organic whole and their behaviour in the process of transformation. This knowledge would help in ranking policy options on the basis of their relative pay-off and social consequences.

Dialogues between Social Scientists and workshops would help in widening the frontiers of knowledge of the participants, and to identify specifically the contributions the Social Scientists could make for furthering the social welfare of the community at large. Bringing together of different social science disciplines, who normally belabour within their own confines, help in better identification and integration in problem-solving approach and assist in formulating meaningful measures for solving ongoing and upcoming problems. May be, there are conceptual and measurement problems and these would tend to be dynamic and recursive. Nevertheless an approach of this kind provides the needed competence to analyse the problem from different perspectives and to gain an insight into the intricacies of them. It would seem highly desirable that an interaction of this kind should be a continuing one to bridge the knowledge gap through interdicipli-nary efforts on one hand and help the academicians and social scientists, on the other, to become responsive to the social needs, expectations and aspirations particularly in a society with wide ranging socio-economic cum cultural characteristics and which has opted for a change in a short period.

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The institute founded and run by Dr. Malcolm S. Adiseshiah is a charitable trust registered under the Madras Charitable Trusts Act.

The aim of the Institute is to contribute to the economic and social development in Tamil Nadu and India.

The activities of the Institute are :

—Studies and action-oriented research in micro-development problems;

—Documentation and library service in development programmes;

—Exchange and dialogue at the State, National and International levels on development issues;

—Publication of papers and research results of the Institute.

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